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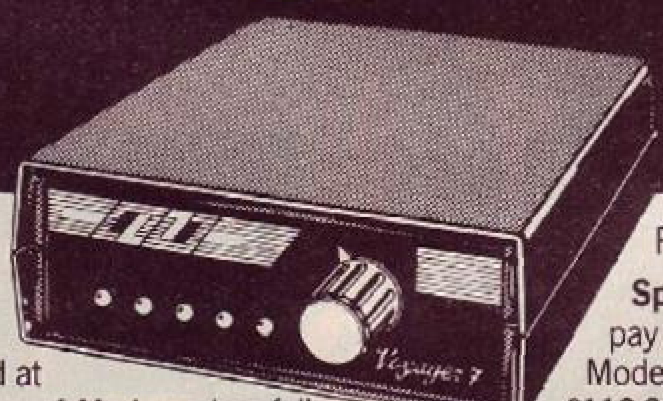
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Starry night at the stables

Now that AA &10 has at last gone to bed, like parents of kids we can pause for breath (before the next one starts crying for attention).

It's the depths of midnight, deadline has passed. Outside the Old Barn in the fresh air millions of stars shine over the little royal town of ancient Wessex. Reflections.

Peace on Earth, goodwill among men: an age-old wish, nonetheless new, for all our readers as another Christmas comes.

Who knows? Perhaps in our lifetimes we'll have to call a truce from zapping those aliens and include them in the goodwill too.

A happy Christmas to all ... and to all a good night!

☆

Speaking of the royal mail, a local postman tells us the Old Barn gets more letters than any other business in Somerton: sometimes as many as 300 items a day. It's probably safe not even to mention Brunel Precinct any more in the address! Every postie in town knows where the Amstrad Action is.

You'll notice too, on this page, how the Future electronic-mail addresses are growing. We had a few letters via Prestel last month (and confess to losing the first few en route to disk). There's now also an editorial mailbox on Telecom Gold, and the Pilgrim has printed his own number in his pages. The *AA* ad office in London has an e-mail address too, but typical of today's state of the technology, on a different network.

—jim

There's still time to revert to jungle

Closing date for the Tarzan competition published last month is 18 December. There is still time to digitize an ape-man yell and win a copy of the game from Martech as well as a loin-cloth, a giant python, a rubber chimp mask and a cuddly toy monkey. 30 runners-up get a copy of the game.

You can use one of two methods: Put a yell onto audio tape and then digitize it using last month's Type-in (which is reproduced on our Christmas cover cassette). Or produce a program that makes a yell.

Send your entry on tape or disk – computer-readable, not audio. If you want it returned, say so and for goodness' sake stick your name and address firmly onto it. Post to 'Tarzan Comp' at *Amstrad Action*.

Best entry so far has come from the jungles of Eire.

Where are you?

Would the following readers please ring or write the editor, quoting ref 'Wo?' We can't find your addresses: Dick Ruck, J Keneally, Paul Bond.

Bury this, Davy Jones

Toot in his absentminded mercy last month forgot the *AA Grave* sticker on the review of the game *It's a Knockout* from Ocean.

Monday hotline

Don't forget that *Amstrad Action* staff are available to help you with your problems and queries by telephone on Monday afternoons between 2 and 6pm. We ask you to limit such calls to those hours.

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RE-ACTION

From the north and from the far south, readers again this month have kept the Old Barn's postman busy. We've even had a few on Prestel. Keep them coming!

Graffitum

Beware of the Amstrad user:
blatant computer abuser.
He'll format his disks
and take stupid risks
then do his best to confuse yer.

Anon
London WC

Presumably seen written on a wall somewhere.

Toot sweet

Last night while looking through my selection of games I found an old dusty cassette. What could this be? It had Amsoft written all over it – very strange. After 10 minutes of waiting the prog loaded. The graphics were block, and the style of typing had to have come from the 1980s. In big words it said, 'How the Toot became,' by Amsoft. 'Press spacebar to begin.' I did.

The screen scrolled, and there, covered in computer dust, lay the secret of Toot. I began to read.

Once upon a clock, quite a while before there lived a chip (the computer sort) who owned a disk drive. This did him well, as it was waterproof and had its own disk (quite a luxury in them days). One day while Chip was cleaning his disk, a small cursor beamed down from heaven and said, 'Behold, small Chip, you shall have a worm and you will call it Toot.' With that the cursor disappeared. Lo and behold, that very next day Chip had a worm, and he called it Toot. As he didn't eat, the only thing Chip could feed Toot on was an aniseed ball. But the ball got stuck and it remained there forever. Next Toot decided to find some legs and swallowed two matches.

Robert White
Ossett, W Yorks

Joyce gets her man

Some prat back in the mists of time nicknamed the CPC machines Arnold, an anagram on Roland Perry, who developed them (Reaction, November). The PCW is Joyce after Alan Sugar's secretary.

What about the new Amstrad PC?

Joyce Malone
Brentwood

Herman. For Herman Hollerith, the granddaddy of IBM. He put business machines on the international map in 1887 by winning a US government competition to tabulate census results. Unc Sam was desperate that year because the results of the 1880 one were still being counted up. Herman used punched cards and newfangled electricity. The 1890 results were out in six weeks, Herman was rich, and has been cloned ever since.

No joy

I recently bought the new Quickshot II Turbo joystick and I have been having problems with it. When I turn on my 464 the letter Z prints up on the screen, and I can't reset the computer with Control-Shift-Escape. On certain games strange things happen: on *Elite* the joystick lets rip with continuous laser fire, on *Gunfright* you can't fire at all, and *Fruity Frank* can't stop throwing his stones. Is this the case with all microswitch joysticks?

Roy Williams
Acton, London

Either you have the joystick's autofire on, or the joystick is shorting out somewhere. Show it to the shop where you bought it.

We'll deal with similar problems in a future Problem Attic.



"AT LEAST IT'S STOPPED YOU PLAYING ON THAT CONFOUNDED COMPUTER"

We depend on Bob

When I read your reviews I wonder if Bob Wade realises how many people take his word as gospel on whether a game is worth buying or not. I think there must be thousands like me who do.

This dependence on reviews is due mainly to shops having 'a company policy not to load games' and hence leaving the customer in the dark.

On Saturday I went out, tenner in hand, last month's reviews in mind, and bought *Revolution*. I took it home, loaded it up and hoped Bob knew what he was talking about. A few hours later: Wow! Great game – good graphics, original, so addictive. A tenner well spent, thanks to *AA*.

Keep up the good reviews – we depend on them!

Joe Robinson
Bury St Edmunds, Suffolk

And keep up the nice letters!

Flash flying

Have you noticed how terribly bugged the disk version of Mirrorsoft's *Strike Force Harrier* is? For instance, try making a vertical takeoff and get a little altitude. Then roll over 180 degrees exactly, so you're upside-down: you will shoot across the Foftrac scanner at about six times the speed of sound. Try it!

Steven Osborn
Bristol

Amazing! While we're up here, you'll be glad to learn of the new subscription offer on page 112.

The name fits

I have only recently joined the ranks of Amstrad owners, having bought my 6128 in July, and am a total novice at computing.

Is there any point or advantage in sending the Digital Research registration card I found in the packaging of my 6128? Is there, indeed, any obligation?

Can you recommend a good 'how to become a complete computer wizard on your Amstrad overnight even if you are a complete blockhead' book? Despite an honours degree, I'm finding the handbook a bit frustrating.

I included enough for *one* game in the initial outlay for my computer (I am still working on convincing my wife that I bought the 6128 for serious applications) and Pilgrim's review of *Heavy on the Magick* convinced me. He was right – thanks. The map was extremely useful, though I found a couple of slight differences here and there. Actually, since getting hooked on *Magick* I weakened and bought *Tau Ceti – the special edition*. Excellent! Has anyone else come across a 'ghost' building in the city of Hame – one you can't get close to, no matter how long you travel toward it?

Thank you for a very good magazine. It is both entertaining and informative: aimed just right. It isn't too serious, yet manages to cover serious computing in features and advice; and it doesn't descend to the overly lightweight antics of other magazines, which are in effect only software reviews and little else.

Malcolm Arnold
15 Morritt Drive
Halton, Leeds, LS15 7HZ

Sean Gray's book Starting Basic *is good for beginners. It's published by Glentop in two volumes, total cost £11. We'll publish your Hame address in case of* Tau Ceti *leads.*

High cost down under

We antipodean Amsters find AA immensely informative and humourous. Long live Sugarman, defender of the great Amstrad way!

I recently imported *DR Graph*, *Hitchhiker's Guide to the Galaxy* and *Elite* – mainly for cost reasons: *DR Graph* is NZ$325 here, whereas it cost $150 to bring in. It has proven to be very versatile, but other users may have noticed a little mistake in the manual. It says you can write-protect side A of your working disk. This, however, causes the program to crash when it attempts to write a temporary file to side A.

Hitchhikers is the greatest. The infamous babelfish puzzle has me stumped, however, and a combined brainstorming session was to no avail. Help me, Pilgrim!

Elite has taken quite a few hours. I've just got a 'Right on Commander' since being rated dangerous. Does anyone know where to get a cloaking device? I use *Moon Cresta* to hone my reactions for *Elite*. My best score on this is 57,350.

Definitely the best thing about having an Amstrad as well as the great software is being in a users' group. The Wellington Amstrad Users Group has about 120 diverse members. We buy disks at bulk discounts, have a library of public-domain software (including some Type-ins from AA), books and magazines. Our newsletter rivals AA for humour: have you ever had binary page numbering?

How much would a subscription cost with delivery by airmail to New Zealand?

Craig Beaumont
Lower Hutt, NZ

This being our &10th issue, we had to restrain Toot from numbering the pages in hex.

A subscription to the Antipodes by sea would cost £20.64, by air £37.94. We understand the newsstand price in NZ totals £29.40 a year.

Such friends *

Most of my friends have Spectrums and gang up on me because I have an Amstrad. It really gets on your nerves after a while.

Patrick Kearney
Hamilton, Strathclyde

Stuff Get Dexter, Batman, 'Spindizzy, Gauntlet, Ikari Warrior *or* Heartland *under their noses to show what the CPC can do, Patrick.*

Top of the bottom



Please please put me out of my misery. Am I the only one who cannot dock in *Elite* or constantly falls off lifts in *Chuckie Egg* or trips over boulders in *Kane*? Is there someone else whose Willy will never make it to the jet set as he is still fighting off the stupid birds in the menagerie (*Manic Miner*)?

Maybe if you started a low-score chart I would be top.

I've only ever completed one adventure (*Fantasia Diamond*) and that went out with the ark. All I need to do in *Mindshadow* is get that bit of parchment, but the dark gets me first. I did do quite well in *Killapede* – my high score is 31,000+: not one for the charts, but good for me.

Oh, my claim to fame is completing *Sorcery*. Not the *Plus* version, because the necromancer nasties had me first. Still I keep trying; one day I will succeed.

I enjoy reading your mag. I get pleasure reading about games that I know I will not be able to master.

Maybe you can pity a poor mum left behind in the age of board-games. (I lost at *Monopoly* as well. I always went to prison first time round.) If I, by some strange quirk of fate, win the software, I will buy *Trivial Pursuit* so that I can lose at that as well.

Alex Duck (November), by the way, can stuff his lifts.

Mrs Lynn Davies
Tattershall, Lincs

Further education

You failed to mention in the reviews of educational software (November, December) the packages produced by Database Publications. They market two cassettes for 2- to 8-year-olds, each containing 10 games. Although many of the programs are rather simple and once played will not be of interest again, I found several that provide many hours of enjoyment (as well as being educational) and with different levels of difficulty. They also produce a very good adventure game, *The Princess and the Sword.*

RJ Scowen
Romford, Essex

We'll look at some more educational packages after Christmas.

Budget borderline

How much is *Activator* by Cascade Games? Is it budget? It should be! Your review (December) did not say. Don't blame Toot. That spongeball on matchsticks is innocent.

What is the highest price a 'budget' game can be? £5? £4? £3?

Mark Tyson
Sheffield

Okay, Mark, we won't mention Toot. But in last month's review should have appeared: £8.95 cass, £13.95 disk, joystick or keys.

All 'budget' software these days sells for £2 or £3 less the obligatory penny – a well-established price bracket.

Mixed marriage

I have a 464 with a colour monitor, but my monitor is the wrong one. It is a CTM 644 with a 12-volt DC outlet, instead of a CTM 640. Will this affect the computer? Would it be possible to keep it and buy a 6128 separately and use both computers with it? (Not at the same time, of course.)

If anyone wants to buy my 464 by itself, offers welcome.

Derrick Khan
33 Rodgers House
Kings Ave, Headlam Rd
London SW4

This monitor and 464 or 6128 are happy together. It's very unlikely you'll find a retailer willing to sell the computer without monitor.

Feet in good wine

Like good wine your magazine is improving with age. When I first bought *Amstrad Action* I thought it was childish and did not expect to buy another copy. But I subscribed, and now am very glad that I did.

Whenever I need information or advice on certain matters or products, I always refer to my past issues of *AA*. I know it must be difficult to cater for a readership with an age span from about 9 to 69, but you seem to be doing better than most.

It is said people vote with their feet. Come subscription time my vote will go to you, but remember this: there is no such thing as a loyal customer.

AH Mahon
Merseyside

Hi-score in Holland

To all the hi-score fans:

Do you feel just as lost as we do since the hi-score pages have been removed? Then write us! We're willing to start a mag with all your hi-scores (the first 10 places of every game), charts of the best players, playing hints and occasionally a map.

Please reply to us if you want this to be a success and send us all your hi-scores and ideas about how the mag should look.

We've also sent this call to some German Amstrad magazines in the hope to reach hi-score fans all over Europe. If we get enough replies we hope to have the first issue ready at the end of this year. If not, we will write you back.

Dirk-Jan Lust
and Bart Florusse
Grashof 37
1511 XB Oostzaan
The Netherlands

Good luck to you. Your main problem will be verifying the scores.

A poke in the eye

I came back from the Amstrad Show with *Spindizzy*. Although the game is easy to get into, I found I needed time to explore, so I went through some of my back issues of Amstrad magazines in earch of pokes.

As well as finding a rather longwinded one in another mag, I found Tim Gilbert's for infinite time in the June issue of *AA* – great!

Only when I flicked through the September issue of a third mag did I notice that a Carl Jones from Swansea had the cheek to copy the exact listing (tell a lie – he changed an unwanted & sign in line 20 to a d) and send it to this magazine, who in turn had the nerve to print it!

This is called poke-stealing. Tim Gilbert slaved over a *Spindizzy* poke – he didn't just copy it from another magazine.

I am aware that poke-stealing is becoming a regular thing now, so I'm glad you've got the decency just to print original ones.

Amstrad Action is first with good, short, original pokes. Let's keep it up, guys.

Matthew Clement
Romford, Essex

Before any poke gets into Cheat Mode, we make strenuous efforts to make sure it has not been printed elsewhere. Once it is in AA it is copyright.

Yie-ar Kung Toot

Please could you recommend me the best game out of *Exploding Fist, Yie-ar Kung Fu, Tau Ceti, Kung-fu Master, Sai Combat* or *Way of the Tiger* or any other martial-arts software.

In issue 14 page 82, David German got one of five runners-up prizes for his *Speed King* hack. I didn't see it anywhere in Cheat Mode, or did I miss it?

Dumfries

From your list we'd choose Tau Ceti, *but it's not martial-arts.* Yie-ar Kung Fu *may not be the best martial-arts simulation, but of them it's the most fun as a game.*

Thanks for pointing out the Cheat Mode slip-up. We suspect Toot's cousin George was at work. Watch next issue.

Write on

Okay, RpM, I think you have got off to a good start in your new job. I like your articles. You are very clear in what you say, have no grammatical errors and your English is actually quite good – something which can't be told from your normal letters!

Miguel Rocha
Oeiras, Portugal

Thanks for the compliments! –His editor.

Snapping the screen

I am a keen photogapher who would like to take pictures of computer games, and have found very little information to tell me how to. What shutter-speed, aperture, filters, etc do you use? Does the photographer have to lock himself into a blackened room? How many pictures does he take of each game to be sure of getting a good one?

The quality of screen photographs in your magazine is excellent, and I think the photographers should get a pat on the back.

Nick Green
Leatherhead, Surrey

Thanks, Nick. The camera we use has automatic aperture. We use a zoom lens, but an ordinary one will do. It's important to avoid all external light reflecting on the screen: we built a wooden tunnel to enclose monitor and camera, but it's less hassle to wait till night and switch lights off. Beware green and blue backgrounds – they are particularly prone to strobing effects. For the same reason, shutterspeed has to be slow: try a few shots at 1/4 and 1/8. At these speeds, a tripod is essential. Happy snapping!

Top ten again

If Amstrad users are called Ammys and Spectrum users are called Speccys, what are Commodore users called?

And why was the Serious Software Top Ten in issue 15 exactly the same as the Top Ten in issue 14? Please don't blame Toot, as he was nowhere to be seen.

Neil Selwyn
West Lulworth, Dorset

Unfortunate. Ill-advised.

You won't find another repeat this issue, Neil, because we've decided to drop the charts for Serious Software, where the various categories are so completely different. How can you rate Protext *against* Art Studio, *for instance?*



Chuffed, not in huff

Thanks for printing my item on *Southern Belle* in your December Cheat Mode pages. *AA* is definitely the most reader-oriented: four whole pages for readers' letters, five pages of readers' type-ins, two on problems which we may have, the Cheat Mode pages plus Lords and Ladies of Adventure.

When you review a game that is like another game on the market, you decrease the marks for your overall rating and continually compare it to the other game. I feel you should take each game as it stands. One such example is *Nightshade*. I don't think you gave it the marks it deserved.

And could you help me with the check I keep of all cassette software available for the CPC464: who markets *BC's Quest for Tyres, Bryan Robson's Super League, Benny Hill, Bismark, Codename Ganti, Faerie, Lucky Fruits, Lazy Jones, Quantulla, Robot Messiah, Spiderman, Word Games, Tipster, Pentagram* and *Paperboy*?

Andrew Duff
Tain, Ross-shire

Ultimate's Nightshade *was a Rave in issue 5. But when* Gunfright *came out from the same company five months later, it rated 73% – basically a good game but with such similar graphics and gameplay. 'Although the game is more interesting than its predecessor, it loses a lot because of its lack of originality,' we wrote, but advising the newer one 'if you're fresh to Ultimate's products'. Obviously nobody can afford all the variations on a theme and for this reason originality is worth a lot.*

Bismark *is due soon from PSS and* Paperboy *from Elite. Of the others you list, most are not available on the Amstrad; those that are are ancient and unadvisable – forget them, Mr Xuff.*

Panting with pleasure

Congratulations on producing a magazine which does not assume that all its readers are still in short pants, and which is aimed at a more intelligent and adult readership. I am 38, have tried all the others and now subscribe only to yours.

R Bellerby
Hessle, N Humberside

I've been hooked ever since issue 1, when I bought *AA* experimentally instead of my previous regular. Never looked back – especially due to the nice prezzies – and of course I enjoy the reviews, Toot and the serious side. I have found that games which you have rated Raves and Mastergames very good and enjoyable – *Obsidian, Spindizzy* and *Equinox*, for example. I'm glad to hear about the new dedication to the serious side of CPCs – that was my only minor quibble, which will now be put right.

How about a book-order service?

Andrew Lewell
Plymouth

Thrust – aaghhhh!

Great game. Unfortunately it doesn't work on the 664, even though it claims to on the cover.

David Bennett
Angmering, W Sussex

'Firebird's loading system again,' says Bob Wade; 'I'll put money on it.'

Points for Re-actors:

► PRINT your name clearly if you want us to spell it right. You should see some of the signatures we get!

► A telephone number might be useful in case we need to check something before printing your letter.

► Please don't expect individual replies, especially on games problems – we get just too many letters and would have no time left to put out your favourite mega-mag.

► If you have points for various departments (eg. Pilgrim, Type-ins, Subscriptions, Mail-order) please write them them on separate sheets of paper. Some members of the AA team are free-range – they are not confined to stalls in the Old Barn. So if you expect one bit of paper to be shared round, I'm afraid you multiply the chances of it getting lost. Make sure your name and address is on each, but you can post them all in one envelope.

Simple Simon

Oh, dear me, you've made a boob. In the November type-ins the Simon program had four errors in it. Or was this written on a machine other than a 464?

Daryl Wardle
Wentbridge, Yorkshire

Yes, Daryl, we flubbed it. We omitted to say that Simon was for the 664 or 6128 only.

Rodent artist

After your review of the *OCP Art Studio* (November) I decided to buy it. I am also considering a mouse to complement the package. I cannot afford the whole AMX mouse package as well as *Art Studio*. Is it possible to buy a mouse without software from any manufacturer? You mentioned the Kempston mouse. I know where I can purchase an RM Nimbus mouse, but would it be compatible with Arnold? It has the same 9-pin DIN socket as Arnold's joystick port.

Geoff Kendall
Folkestone, Kent

In our opinion, Geoff, joystick or keyboard is almost better than a mouse with Art Studio. *We doubt the Research Machines mouse would suit Arnold, but haven't one to try. Perhaps another reader could report.*

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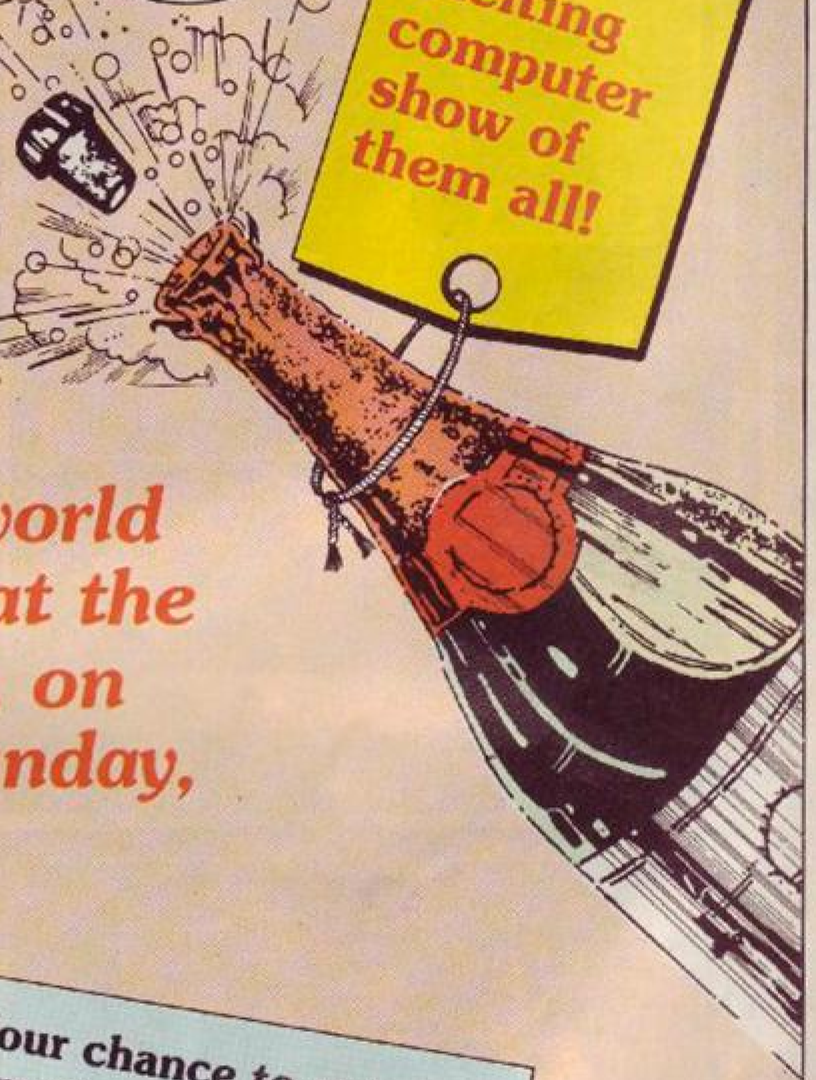
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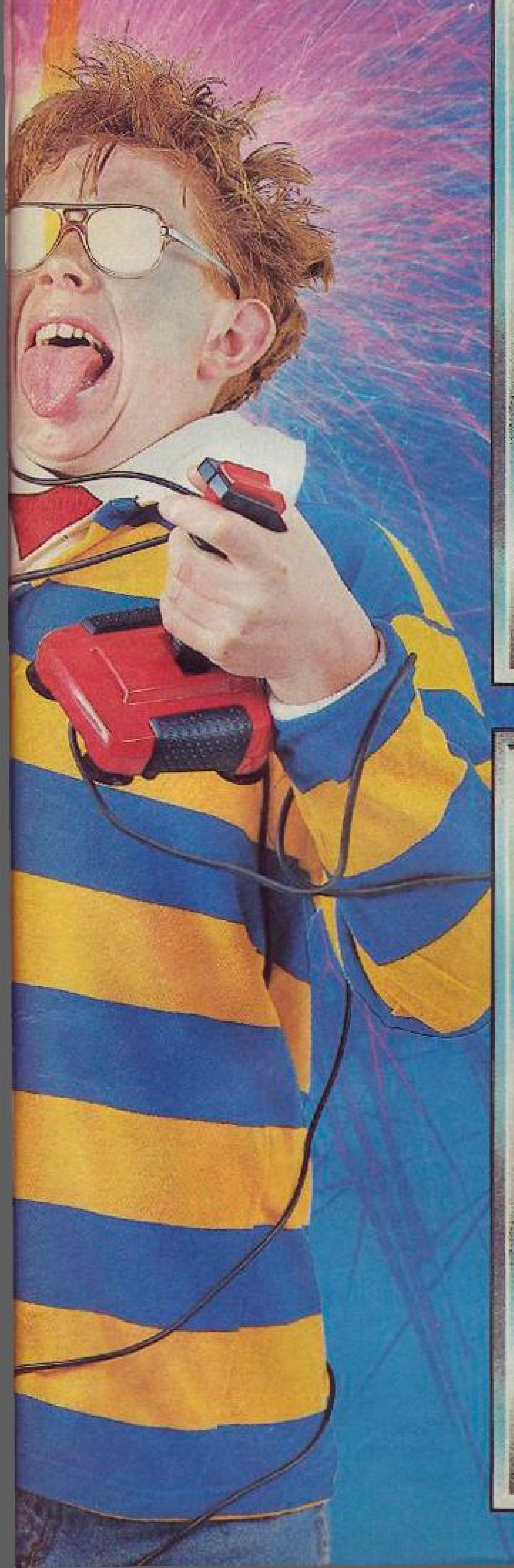
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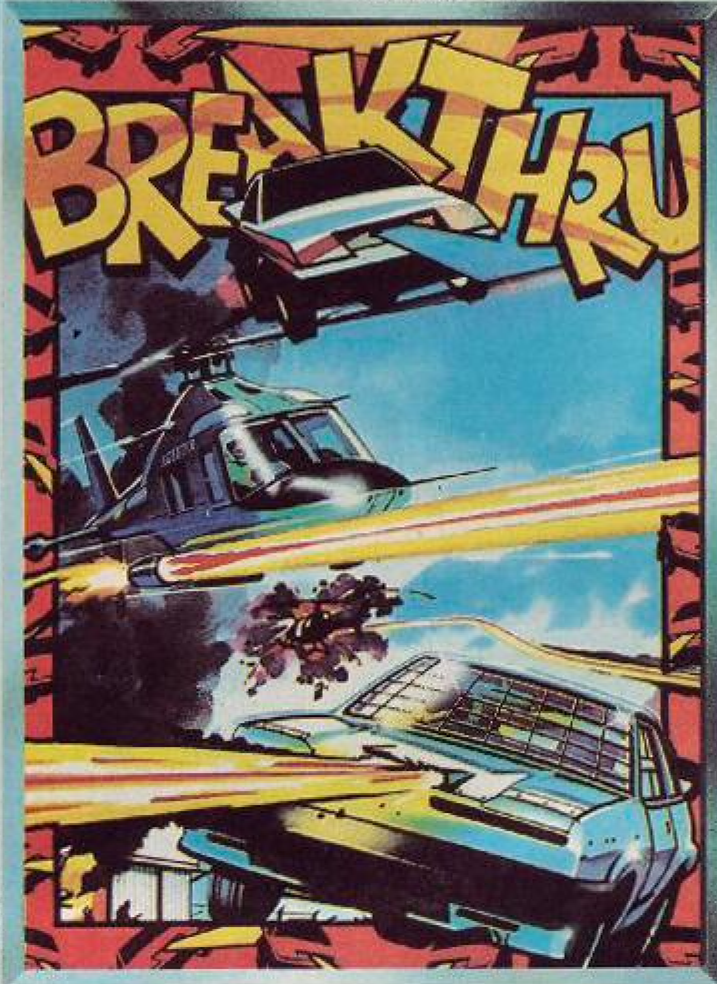


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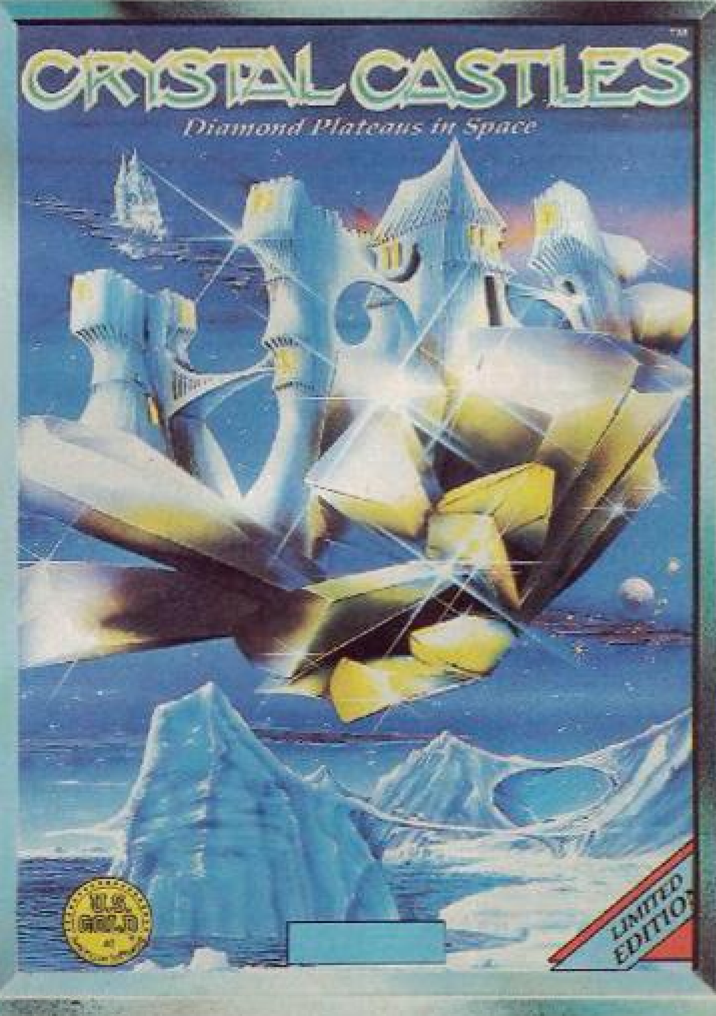
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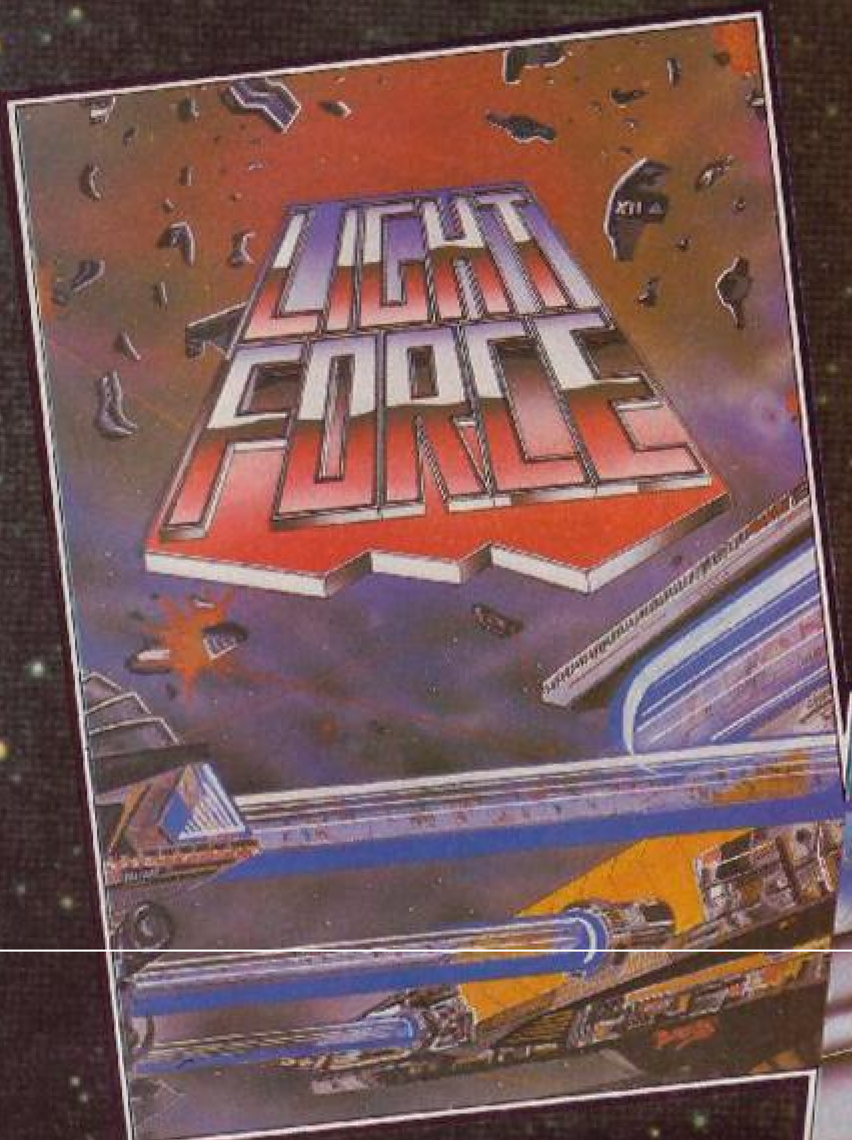
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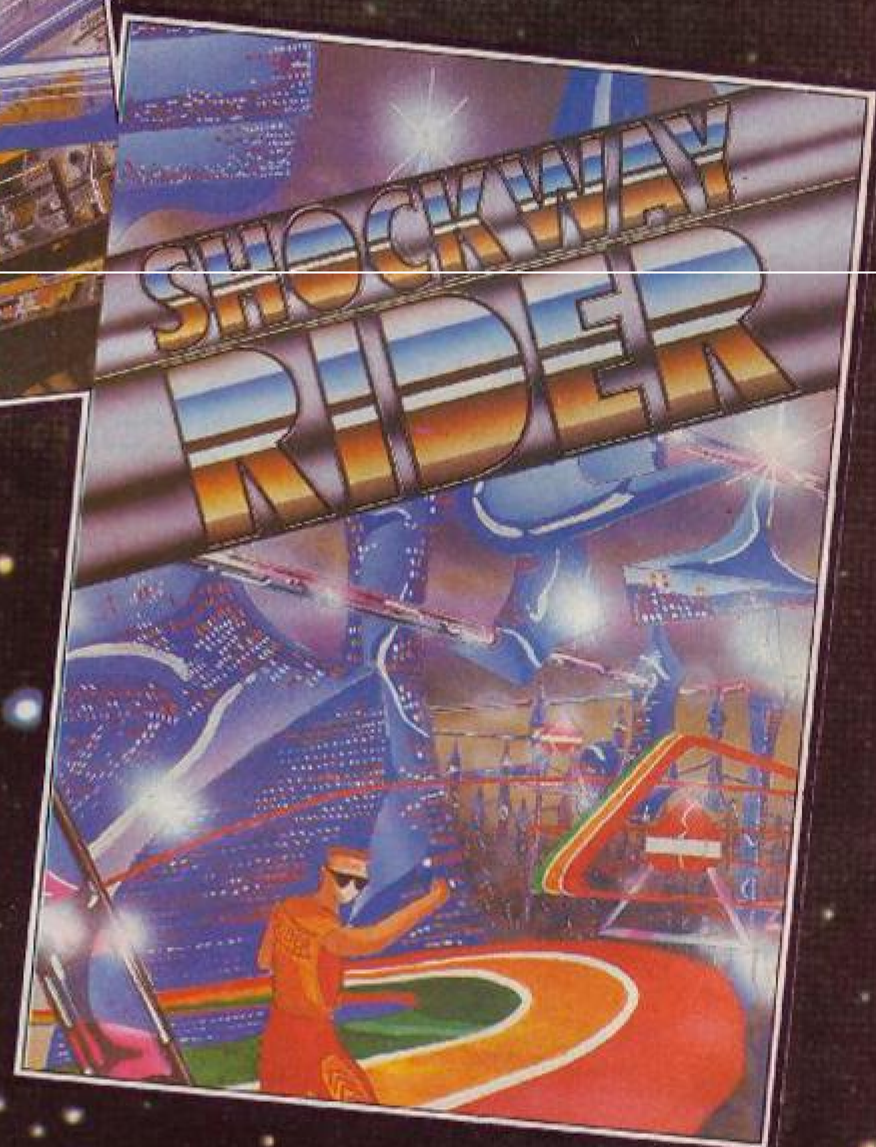
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Formerly mega-brill

I am writing to complain about the declining standards of your once ace, mega-brill, fantastic mag. Over the last couple of months you seem to have lost all your humour, especially in reviews. When I go into our local shop to collect my mag, I look at the cover and think, 'Oh, no, not again!' *Amstrad Action*, once the best mag, is becoming *boring*.

Also put more reviews in colour instead of having loads of colour adverts for games which won't be released for months (eg. *Street Hawk*).

I hope your Christmas issue this year will be as good as last year's, with plenty of games, a whole sack of cheats and even another free tape.

Stuart Cassidy
Liverpool

Here you are, Stu: Christmas issue, more games than ever, huge sack of cheats, even another cover tape. And your letter printed!

After rushing out and buying the latest issue (October) of *AA* I looked at the cover and thought to myself, 'What a dull and boring cover.' And I find no competitions, no hi-score, probably to put in a load of technical gobbeldygoop. Everything's so neat, so tidy. You've lost your fizz and sparkle!

I'll not be surprised if you don't print this letter, as you've not printed my last six or seven letters.

Rob Shepherd
Sutton-on-Sea, Lincs

There are a few more suprises fizzing up our sleeve, Rob! By the way, where's your entry for the Tarzan competition?

Your cover for December was excellent.

Jone Paul is not how you spell my name. The company added the E by mistake. It's not very funny being called Jone by mates at school.

As you are going to print the author's name in future, I will tell you how to cheat on *Nuclear Heist*. For infinite lives, simply type Eldridge backwards when you are asked to enter your name. To cheat on *Killapedes*, my mate's game, press Delete, P and A all at once. This will start increasing your lives during a game.

Jon Paul Eldridge
Trowbridge, Wilts

Scales of A and C

Why has the Commodore 64 got better music in its games than the Amstrad – *Rambo* for instance?

Could you send me a program to make three sounds at once? I think Amstrads are the best.

Mark Rossiter (age 12)
Telford, Shropshire

The Commodore has its own specialized music chip, giving more control over volume and envelope shapes. Arnold can produce only square waves.

Rainbird's Music System *and* EMU *(see page 55+) use Arnold's three channels simultaneously. Here is a simple example:*

```
10 SOUND 1, 100,500,7
20 SOUND 2, 500,500,7
30 SOUND 4,1000,500,7
```

The numbers following the SOUND command are channel, frequency, time, volume – easy to remember in alphabetical order.

GIGO is the word

Okay, we give up. Why do you clever bods at *AA* print listings that never work?

I wish you could see the face of my 13-year-old daughter after taking root at our 464. After typing *GIGO* from the October issue, why after the screen displaying several boxes does it then show in the top left corner 'DATA exhausted in 240'?

Mrs H Johnson
Sutton Coldfield, W Midlands

You probably missed a piece of data or typed a fullstop instead of a comma. We had to type in the printed listing to make this month's cassette, and it worked first time.



"AND I ACTUALLY WENT AND BOUGHT A COPY OF A***X..."

Selective silence

Alex Gough in Sussex (December) asked for a poke to turn off the music in *Elite*. Your solution – the volume control – did work but this also prevents the rest of the excellent sound-effects from being heard. Therefore after many cups of coffee and use of a disassembler I came up with the following. Just load *Elite* normally and then type:

```
10 REM poke to "turn that
blasted Elite music off"
20 POKE delete key, index
finger :REM pauses game
30 POKE Q-key, any finger
 :REM stops music
40 POKE CLR key, index
 finger :REM resumes game
```

Also, a poke to help you get hold of a docking computer:

```
50 WHILE your cash <
cost of docking computer
60 BUY CARGO : SELL AT
 PROFIT
70 WEND
80 BUY docking computer
```

Hope these will help. I have some more but I don't want to take all the fun out of the game!

Before I go, could you print my address in case anyone is interested in buying *uncopied* originals of *Lord of the Rings* and *Jewels of Babylon*.

Gareth Graham
Cardiff

Gareth, you cheated! You read the instructions!

It's policy, I'm afraid, not to print readers' ads for selling commercial software. Yours may not be copied, but others might be tempted to piracy.

The very depths

Until recently Amsoft held the title of most notorious software house – for producing very poor games at inflated prices. Now, that title has finally been wrested by Ocean, its lineup of baddies including such epics as *Rambo*, *Knight Rider*, *It's a Knockout* and the incredible *V–The Computer Game*.

While it may be true that Amsoft produced a whole series of worthless rubbish, at least it did not give such products huge amounts of hype in almost every computer mag. With the big money spent on publishing rights and advertising, one would think Ocean might put just a little bit of thought into the development of the games themselves, instead of dishing out poor graphics and sound.

I congratulate you on highlighting games to be avoided, with the 'AA Grave' symbol. Magazines should not be deterred from slamming the major software firms by the fear of losing advertising revenue.

Nick Rijke
Highclere, Berkshire

Only because Amsoft hasn't been producing anything lately.



"IT SAYS 'YOU ARE STRANDED ON A DESERT ISLAND. THE SUN IS BLAZING DOWN. YOU ARE THIRSTY. A BOTTLE FLOATS BY. WHAT NOW?'

Button down

I have had my Arnold since Christmas. It has developed a minor problem: the reset button on the tape counter has broken. It does not stop the tape recorder working, but it is annoying because it's time-consuming to find programs on tape.

Is this a common fault with the 464? Is there any way I can fix it without taking the back off or having to send it off to a shop to get it fixed at a price far from cheap?

Paul Orange
Preston

The back will have to come off, we're afraid. Since your 12-month guarantee is still valid, have the shop do it, Paul. We haven't heard of other such problems.

Which is the best printer you can buy for under £200? Also, for the 6128 do you have to buy Amsword? Is Easi-Amsword not compatible?

James Hardman
Warrington, Cheshire

See our 'best buys' section starting on page 55. Easi-Amsword will work on the 6128, but frankly it's pathetic.

AMSCENE

On show in 1987

The next big Amstrad computer show is scheduled for 9-11 January at the Novotel in Hammersmith, London. The experts will be there to answer your questions. Tickets cost £2 for adults, £1 for under-16s, with £1 off if ordered in advance. (Tel 061-480 0171 or Prestel *89 614 568 383, or BT Gold 72:MAG001.)

AMX finally finishes Pagemaker

Yes, it has arrived! After months of maybes! After weeks of wondering! After days of desperation! After a complete re-write! They woke us up after deadline to tell us it was on the way, and it is finally here. Believe it or not, we have seen it in action and are impressed.

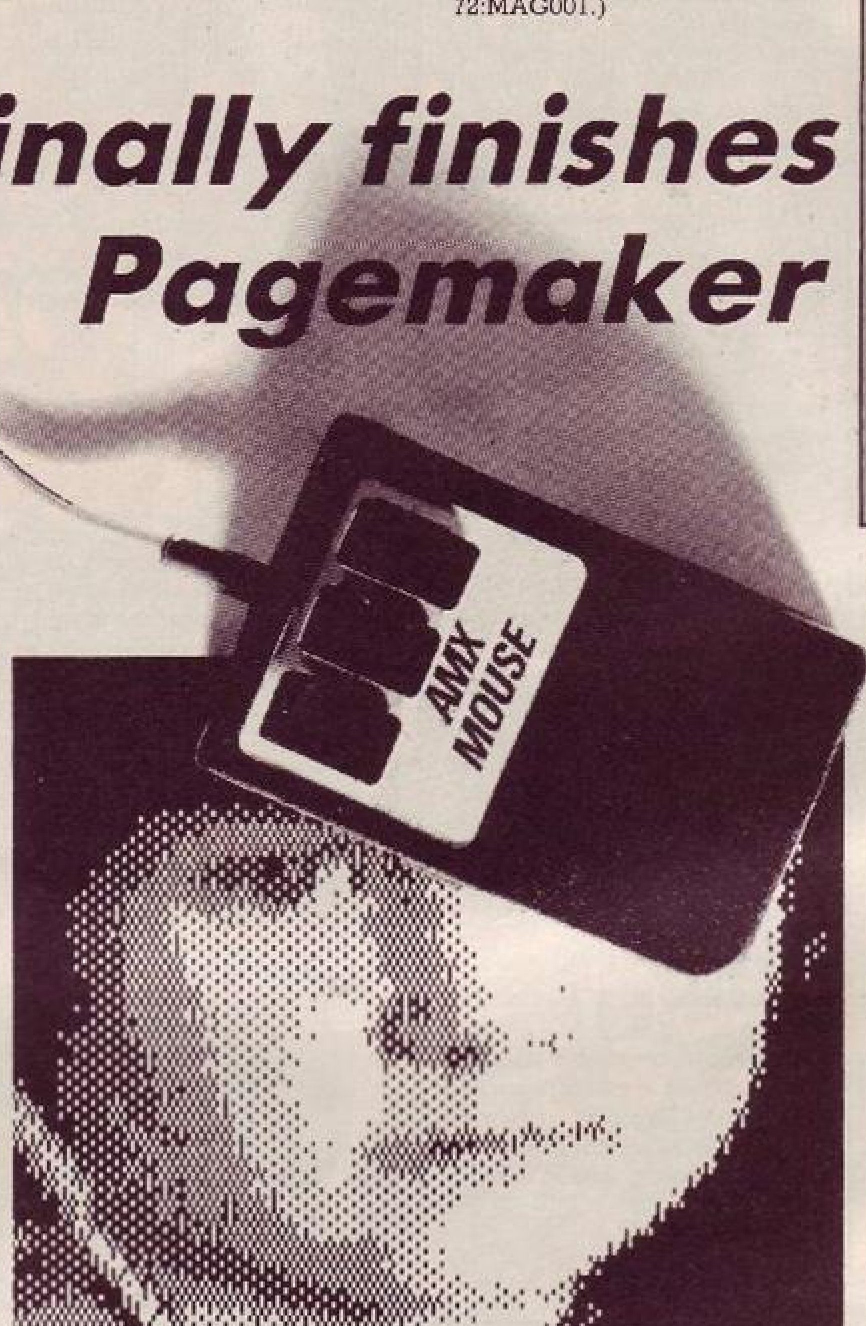
We have abandoned plans to produce a new Simon W Becket play entitled 'Waiting for AMX'.

Although *AMX Pagemaker* is by Advanced Memory Systems, the same people who produced the mouse, the new software will also work with joystick or keyboard. On disk only (£50) it requires a 6128, a 664 with extra 64k expansion ram or a 464 with extra 64k and disk drive.

The features list is long and impressive. Using *Pagemaker* you can create a complete A4 newspaper-style page with powerful text, paste and graphics facilities. Text and graphics can be mixed at any point on the screen; graphic screens can easily be manipulated. Text produced with various wordprocessors can be loaded into *Pagemaker* and formatted to your design.

Four character sets are standard; three of these can be user-defined. A complete art package is included, with some very advanced features – many akin to *Art Studio*. You can use Vidi, the device from Rombo reviewed last month, to produce digitized pictures and place them anywhere on the screen.

There is so much to *Pagemaker* that we can't wait to give it an in-depth review next month.





The latest.

You can tell it's nearly Christmas: a glut of compilation tapes is coming out, hoping to attract new Amstrad users and those who may have missed out on past successes. We've tracked down no less than seven that should be available before Christmas. Here's the list – see which one takes your fancy.

The pick of the bunch looks like *Five Star Games* from Beau Jolly. At £10 it's got three of our Raves and that unforgettable Mastergame, *Spindizzy*. The other four titles are *Zoids*, *Equinox*, *Who Dares Wins 2* and *Three Weeks in Paradise*. That's a very powerful lineup. Even if you've already got a couple of the games it's still good value.

Another pack of five games is Imagine's collection of Konami coin-op (horrible word) games. This is also going for £10 on cassette and £15 on disk. It consists of *Yie-Ar Kung Fu* – still a very entertaining combat game, *Green Beret* – a blood-and-thunder stab/fry/blow-em-up, *Ping Pong* – fast-moving tabletennis game, *Hypersport*

EMU poised to fly

Release of the music package *EMU* (Electronic Music Utility) was still being promised 'any time now' by Discovery as we went to press. It was to have been out in late October.

Our generally favourable review in the October issue failed to say we were looking at an incomplete preview version of *EMU*. Martin Ridout of Picturesque, the programmers, says the final product contains some extra music editing commands, a block-copy feature for repeating parts of the music. Changes have also been made to the voice-switching (which was our review's main criticism) so that the user can move freely between voices, rather than being returned to the start of the music.

One across from Infogrames

The latest game from the French software house is called *One* and lets you be a European version of *Jack the Nipper*.

As Valentin you have to go around playing practical jokes on a poor bloke called Alfred. You have lots of objects at your disposal including buckets, stones, balloons, custard pies and banana skins. When Alfred's good and mad at you he chases you until he catches you and gives you a good hiding, or he calms down and you can start all over again. We've seen a French version of the game but expect the English one soon.

– a sporting simulation that has palled with time, and *Mikie* – new to the Amstrad.

That other master of arcade conversions, Elite, also has a compilation coming out with four of its older titles available at £10 on cassette and £15 on disk. There are two quite old games in *Airwolf* and *Frank Bruno's Boxing*, and two arcade classics in *Bombjack* and *Commando*. None of these stands out as being particularly great today, but as a package it's good value.

Durell also has a pack of four games coming out of its past releases, but among them is a title new to the Amstrad: *Critical Mass*, a 3D shoot-em-up which has been a long while in the converting. The three old titles are *Combat Lynx* – a helicopter combat simulator, *Turbo Esprit* – a driving game, and *Saboteur* – a furtive exploration game. The four on one cassette cost £10.

We told you about three other compilations last month: *Computer Hits 10:3* from

Compilation craze for Christmas games

Beau Jolly, £10 on cassette, contains *Herbert's Dummy Run*, *Hi Rise*, *On the Run*, *Devil's Crown*, *Wriggler*, *Dynamite Dan*, *Elidon* (not to be confused with *Eidolon*), *Juggernaut*, *Geoff Capes Strongman* and *Cauldron*. For sheer weight of numbers it's excellent value and there isn't one bad game among them.

Now Games 3 from Virgin is also a £10 cassette with five titles: *Nick Faldo Plays the Open*, *Sorcery*, *Codename Mat II*, *Everyone's a Wally* and *A View to a Kill*. That's rather an ordinary line-up.

So is the latest *They Sold a Million* tape containing *Fighter Pilot*, *Rambo*, *Ghostbusters* and *Kung Fu Master*. They're all big names but they're not particularly great on the Amstrad. At £10 on cassette and £15 on disk, not such good value as the others.

Studio won't fit '64s

Rainbird's *Art Studio* is for the 6128 only. Contrary to our November review, it is not suitable for the 664 or 464 even with extra ram or disk-drive.

But Rainbird is working on the *Advanced Art Studio*, which will possibly run on the other CPCs suitably expanded. The advanced version will definitely handle mode 0 screens. Further details when we get them.

Censored

The first computer game to get a rating from the film censors is *Dracula* from CRL, which has picked up a 15. CRL voluntarily sent the game to the censor – we wouldn't like to say as a publicity ploy.

But just how the retailers are going to implement the rating is unclear. It may have been well-intentioned by CRL to prevent the product being banned by retailers. Under-age games-players will probably react in the same way as filmgoers and see the rating as a challenge to circumvent. Anyone 15 or over can buy a copy for £8 on cassette.

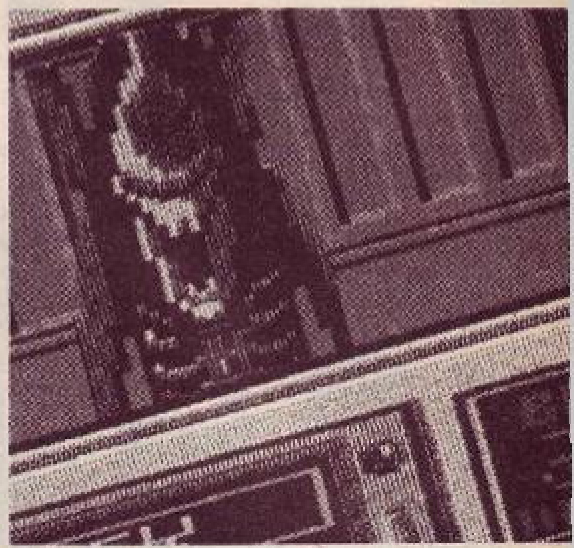


Times apart

PSS is releasing another two new games for the Amstrad, without swaying from its marketing theme of war and strategy. The eras chosen couldn't be farther apart, though: circa 273 BC and 1989. Each costs £13 on cassette and £18 on disk.

In *Annals of Rome* you take the role of the ruling power group in the senate. Prime objectives are survival and expansion of the empire, which began in the year 273 BC when the Romans took control of Italy. You must deploy armies and commanders in successive foreign and civil wars.

In 1989 after almost a year of increasing tension, a full-scale Warsaw Pact offensive is launched into Western Europe. *Battlefield Germany* has begun. The game offers strategic and tactical opportunity for anyone interested in exploring the strategies of modern warfare. It also serves as a chilling reminder that nuclear escalation must never reach these heights.



Gut-busting action

Anybody whose stomach turned at John Hurt's unfortunate experience in *Alien* probably came back for more and watched *Aliens*. Now you can play the follow-up computer game. The first one had something of a cult following; we're sure Electric Dreams hopes this one will do even better.

As in the previous game you've got control of several characters as you battle against the alien forces, but the graphics have obviously been considerably improved. The game looks as if it will contain many features of the film. Let's just hope they aren't too gory – all that alien impregnation makes my skin creep.



The game will cost £10 on cassette and £15 on disk. As the advert says, there are some places in the universe you don't go on your own – this may be a game you don't want to play on your own.

Stay in bed with Reds in control

Fancy putting Arnold to work controlling household lights or heating? Turn the TV on in time for *Doctor Who* and the electric blanket just after? Patrol your pad against prowlers?

Home automation is all possible with a new add-on for the Amstrad, simply called Red Boxes, from General Information Systems, Cambridgeshire.

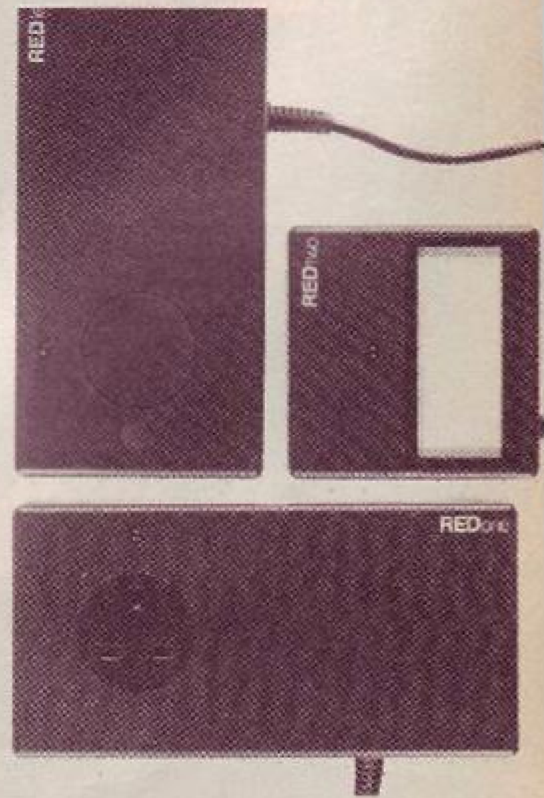
Red Leader is the brains of the setup. It's the size of a box of chocolates, plugs into the mains (with a red plug of course) and connects to the printer port of your CPC. Inside is a complete 6502 computer. Once instructed by your keyboard it can carry on doing its job without Arnold.

Red One, same size, plugs into the mains elsewhere in the house. On its surface is a socket where you plug in your appliance. The smaller Red Two is a movement detector, also with a mains plug. These three make up the £129 starter system.

No complicated wiring is needed between the various components – they signal one another along the house's mains cables and are thus easily portable. A single Red Leader can handle as many of the other types as you can afford at £39 each.

With humidity detectors, sensors or additional motors, the system could be used for weather monitoring, aerial rotation, home brewing, greenhouse control, keyless access via electronic door locks. With an auto-answer modem, you could even control your home appliances by telephone.

Watch for a complete review next month. Details in the meantime from Electronic Fulfilment Services Ltd, Chesterton Mill, French's Road, Cambridge, CB4 3NP.



English glides in

Racing games aren't exactly plentiful on the Amstrad, but English is releasing a motorbike game, *Elektraglide*, that should help remedy that situation.

English is obviously keen on its own game. Just listen to these snippets from its press release: 'a major step forward in racing/driving games for Amstrad computers' ... 'programmed with totally new ideas, a creative fantasy-based epic with features NEVER, REPEAT NEVER, before seen on a home-computer racing game!!'

We hope the game lives up to the promises, as it apparently features curved and straight tunnels, high-speed 3D hazards and perspective scrolling landscapes. It will be available at £9 on cassette and £15 on disk.

How much joy? Win £100

Konix, the Welsh-based peripheral company, invites you to guess how long its Speedking joystick will last playing *Daley Thompson's Decathlon* full-speed and non-stop. The person with the nearest guess wins £100.

The £13 joystick will be manipulated by a machine as if it is being pushed at the qualifying rate for Daley's 100 metres. But whereas most people rest after about 15 seconds of sprinting until they get their breath back, there will be no respite for the Speedking. It will be in constant sprint mode until it ceases to function.

'This is surely the ultimate test for a joystick,' said a Konix spokesman. 'We don't know how long it will last – less than a day, a week or even months. But it is by far the most robust joystick ever designed, and it will last longer than any other.'

The test is to be held at a neutral location commencing early in 1987.

To enter, send a postcard marked 'Konix Decathlon' to Solution Public Relations, 2 Wellingtonia Court, Brighton, BN1 6TD. Make sure the postcard bears your name and address and your estimate.



The Palace armoury

Palace is releasing its latest game, *The Sacred Armour of Antiriad*, another arcade adventure. If Palace's past record and the screenshots we've seen are anything to go by, it's impressive. The game has been created by a comic-book artist, Dan Malone, and comes with a 16-page comic that tells the legend of the sacred armour.

The game will be available at £9 on cassette. Price for the disk version hasn't been decided.

The game is a battle against an invading alien force which has attacked Earth after nuclear war had returned us to a primitive way of life. Now you have to find a leftover from technology, the sacred armour, and attach four things to it in order to fight the aliens and try to destroy them.

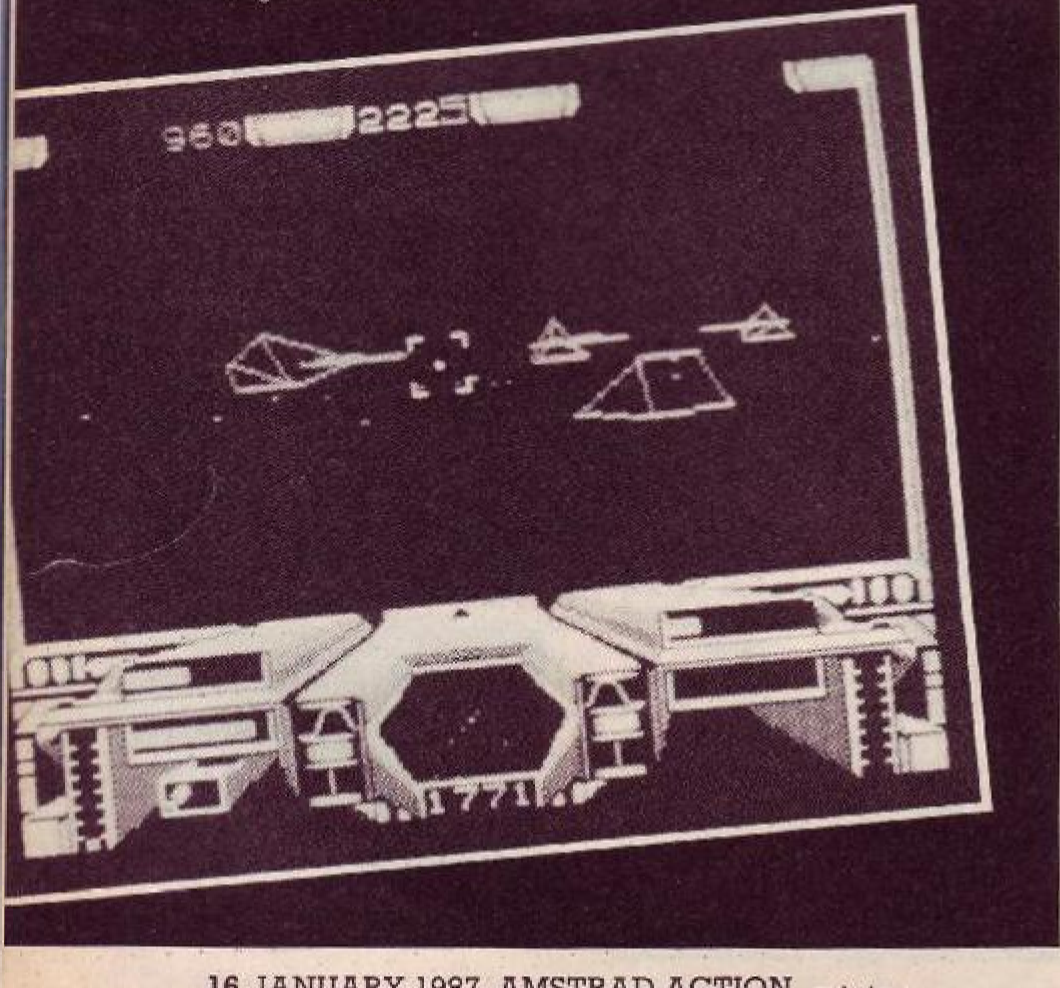
The big spectacular

Starglider is an all-action air-to-air and ground-to-air flight simulation. It has a high degree of fast movement and flying, with just a touch of strategy thrown in. If you drooled over pictures of the Atari ST version, be assured the Amstrad version is going to be spectacular.

Starglider was programmed around a novel written by James Follet. The tale tells of the Egrons' invasion of Novenia, how they managed to slip past the guardian sentinels and lay waste the planet. The main culprit was the dreaded flagship Starglider One.

Superbly animated vector graphics, 3D action, high-speed battle sequences and intelligent alien characteristics make this a surefire winner. Aliens have minds of their own, the Starglider flaps its wings, the Stomper stomps and the Walkers skurry round on tiptoe.

The game can be played either as a non-stop, fast and furious shoot-em-up or as a tactical battle against the invading Egrons. It's going to blow your mind, possibly your pocket as well – £15 on cassette and £20 on disk.



3" disks down to £1 an inch

Amstrad has at last cut the price of Amsoft blank 3-inch disks, to £3 minus a penny. Average price in the past has been around £5.

'A general shortage of disks plus high production and freight costs,' is blamed by Amstrad for the former high price. 'But now Amstrad has overcome these problems.'

Some suppliers of other brands have followed suit and cut their price too; others will wait until they order new stock.

Amstrad owners still pay for the privilege of having a very compact disk drive. The more common 5.25-inch disks can easily be bought at £10 for 10, and 3.5-inchers for around £20.

Fanning a hot flap

Amstrad is fitting an 'unnecessary' fan to all hard-disk models of the new PC in order to kill rumours that the machine overheats. According to the *Sunday Times* version of the tale, the huge corporation ICI cancelled a £4-million order for the new Amstrad machine because of the supposed fault. This is denied – hotly – by both companies.

'We are getting very irritated with this overheating rumour,' said Malcolm Miller, Amstrad's sales and marketing director. 'We could tell every potential corporate customer that it is a lot of nonsense, but that would take a lot of time and effort. It is easier and quicker just to fit the fan and be done with it.'

Alan Sugar was blunt: 'The fitting of a fan is a waste of money, but it will keep some people happy. I recommend that operators switch the fan off.'

Leaving his PC switched on non-stop for 10 hours or more has caused no problem, said Matt Nicholson, Amstrad Action's former editor who now does PC Plus at the next desk. Without a fan the PC runs silently.

ICI is still testing the 1512 for suitability, the company's standard three-month procedure before buying a large number of such machines.

Meanwhile Amstrad blames the rising yen – most of the 1512 is manufactured in the Far East – for a 12½ -percent price increase on 1 January for all models of the PC. More than 300,000 have been ordered since the September launch.

For some reason the price rise does not affect the Amstrad PCW, even though it too is made in the Far East.


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DROP DEAD, YOU GEEK!!
SHADDAP!
GIMME ALL YER MONEY...
IN A WELL-KNOWN DEPARTMENTAL STORE...
SALE!!
SANTA'S GROTTO
OY! YOU WIF THE ORC COSTUME!
WHEN'S THAT GEEZER COMIN' OUT?
I DONT KNOW!
AND IT'S A PIXIE COSTUME!
...AN' I WANT LOTS AN' LOTS OF MONEY!
AN' THE TOP POSITION IN THE ELECTRONICS ENTERTAINMENT MARKET...
AN'...
SUDDENLY, FROM THE P.A. SYSTEM...
WE HAVE AN EMERGENCY SITUATION...
...IN THE COMPUTER DEPARTMENT!
FOOSH!
EXIT
ATTENTION! PLEASE EVACUATE THE STORE!
RRIP.
THIS IS A JOB FOR ME!
IN THE COMPUTER DEPARTMENT...
NOBODY MOVE! I STRIKE FOR THE 664 USERS' LIBERATION FRONT!
I'VE WIRED THIS 6128 TO EXPLODE WHEN I PRESS THE SPACE BAR!
UNLESS WE RECIEVE FREE UPGRADES, AND ALSO...
HALT, PENCIL-NECK! OR I'LL RIP YOUR LIVER OUT THROUGH YOUR NOSTRILS!
KA-CHUKS
GASP! SUGARMAN!
WOE! I AM LOST!
OH, WELL. MAY AS WELL SHOOT MYSELF!
BLAM!
URK!
KHK!
OH NO!
HE'S ACTIVATED THE TIMER!
NOT ENOUGH TIME...
...TO EVACUATE ALL THESE INNOCENT PEOPLE!
DON'T WORRY, FOLKS! I'M AN ELECTRONICS GENIUS!
TWIDDLE TWIDDLE
GOSH! YOU'RE SMART!
I KNOW. I'M A TECHNICAL CONSULTANT AT ICI...
AT WHAT?!
SUGARMAN, DO YOU KNOW YOU'RE PRESSING THE SPACE BAR...?
I AM? TSK. HOW... HEH...UNRELIABLE OF ME...
BAWHOOM!
THERE. TIMER'S DISCONNECTED.
LONG AS NOBODY TOUCHES THE SPACE BAR, WE'RE OK.
FIDDLE
ICI.
YES, I KNEW YOU'D BE IMPRESSED.
IN FACT, I WAS ONE OF THOSE RESPONSIBLE FOR REJECTING THE AMSTRAD PC.
GRRR...!
EVERYONE ELSE HAS EVACUATED...
NO HARD FEELINGS, PAL. I KNOW YOU'RE ASSOCIATED WITH AMST...
ANORAK DELUXE
WORRY NOT, DEAR READER
OUR HERO IS IMPERVIOUS TO HARM.
BUT AS FOR THE OTHER CREEP...

The Christmas

AA's stocking-filler for Amstrad owners: a tape with helpful utilities, fun listings and some great game demos from Firebird, Odin and Beyond – including a complete playable level of our December Mastergame, *Druid*.

There's something for everyone on the cassette on our cover.

The other side contains some top-quality programming by Amstrad enthusiasts – our readers. There's a database, a utility to partition the 6128's memory into a ramdisk, and a disk formatter that can also pack more data on one of your pricey disks. These have not been published before.

The other three are among the most popular fun listings we have ever printed. As lengthy Type-ins they might have been too daunting for some to tackle, so here they are as a Christmas cassette.

Dazzling demos: 8 games to taste

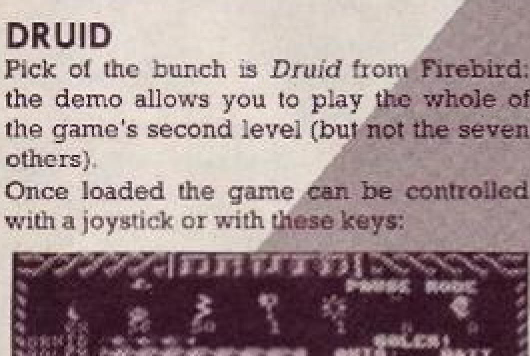
The words Telecom Soft may not mean much to you but grouped under this name are the illustrious software houses Firebird, Beyond and Odin. They're currently responsible for some of the hottest software available on the Amstrad, and they're giving you the chance to see it exclusively in *Amstrad Action*.

On the tape are tasters of eight games to whet your appetite. Four of them are already out and have received a tremendous reception. The other four are new, due out in the coming months.

DRUID

Pick of the bunch is *Druid* from Firebird: the demo allows you to play the whole of the game's second level (but not the seven others).

Once loaded the game can be controlled with a joystick or with these keys:



1 for using keys	Z – left
2 for invisibility	X – right
3 to create a Golem	K – up
4 to use a chaos spell	M – down
H to pause	SPACE – fire.

P to cycle through the three missile types.

If you create a Golem he can be controlled by a second player or by the computer. Pause the game and press **P** to select between the two. In auto mode you press **A** to command the Golem to wait, follow or send.

You'll find there's plenty of blasting to do, treasure chests to open, doors to unlock, pentagrams to replenish energy and exploring to do.

The other seven games aren't playable but they'll give you a flavour of the game.

HEARTLAND

A rave from Odin in this issue with 92%. It features some stunning graphics as you try to collect the pages of a book from five different lands. See the review for the full story.

DOOMDARK'S REVENGE

The October Mastergame from Beyond reveals its panoramic beauty for all to see. Over 6,000 locations and 128 separate characters to control. It demands and gets total absorption from the player.

STARSTRIKE II

Another Mastergame, this time from the September issue after Realtime had produced the game for Firebird. Some of the most amazing solid colour 3D vector graphics you'll see. Several different attack sections mean there's plenty of variety and action in a tremendous shoot-em-up.

DARK SCEPTRE

The latest from the keyboard of Mike Singleton, responsible for *Lords of Midnight* and *Doomdark's Revenge*. It promises a main character half a screen high and smooth scrolling action across 4,000 screens. It should be a strategy game to marvel at when it comes out early in the new year from Beyond.

THE HIVE

This comes from the same programming team that brought you *Elite*. It takes you through the twisting passageways of a hive where you have to destroy the queen. It promises some amazing vector graphics when it comes out in January from Firebird.

LUSITANIA

From Odin comes a task of rescuing gold bullion from the liner sunk at the start of the first world war. You'll be facing all the normal underwater hazards like running out of air, hitting unexploded mines and being attacked by nasty sea monsters.

SPARTACUS

Odin takes us back to ancient Rome where you play the role of the legendary fighter. The game promises plenty of blood, guts and slaughter and even lions. It certainly sounds like a combat game to stir the blood – or maybe to put you off dinner.

Tape loading instructions

Before loading, rewind the tape completely and zero the counter on your cassette deck.

Type the usual command RUN" to load either side of the cassette, or simply press Control and the small Enter key simultaneously.

Side one contains a rolling demo of seven games, ending with a playable level of *Druid*. When this starts to load, read your counter and write it down. Then next time, you can fast-forward to *Druid*.

Transferring to disk

Side two will transfer easily to disk. In cases where binary files are included in the program, instructions on transferring to disk are included in their write-up. All other files are Basic and can be transferred by typing:

```
|TAPE.IN
|DISC.OUT
LOAD"filename"
SAVE"filename"
```

AA giveaway

Amfile

by Antoine Robinson
Hornsea, North Humberside

As the name suggests, *Amfile* is a database. It will certainly give the commercial *Masterfile* a run for its money. It is well presented, easy to operate and certainly fast enough for most practical home purposes.

A database can be compared to a card-index where you can store any sort of information. A simple example would be names and addresses, with telephone numbers and birthdays. Each card is known as a *record*, and on each record are several *fields* of information.

Picture *Amfile* as 200 cards with up to nine lines each.

On running *Amfile*, you are presented with the main menu. From here you can choose to enter information for a field or record, you can sort a file into order, save, load or edit a file – or, of course, exit from the program.

If you choose 'field entry', the program will request a title followed by the label for your first field. After each entry (maximum nine), you are given the option either to add another field or to return to the main menu. After setting up your fields, you will need to fill in the individual data on each.

Listing or ordering your records couldn't be simpler. There are options to list all records in full, list certain fields of records, search through the file or even sort your field entries into any order desired.

Amfile is a genuinely useful program that should be more than adequate for home uses. It is also a great way of introducing yourself to database operations – *dBase II* is but a step away.

Ramdisk

by Tony Hoyle
St Annes, Lancashire

This is an extremely clever bit of programming on Tony Hoyle's part. *Ramdisk* works only with 6128s (464s or 664s will need expansion ram). It allows the second bank of 64k to be used as a ramdisk – you can store files in the same way as on a disk, but many times faster since there are no moving parts.

Make sure all expansion roms are removed before running *Ramdisk*. Once run, you will find that you have a couple of new commands at your disposal, both prefixed with the bar character: |M and |FORMAT.

Before you do anything else with *Ramdisk* installed, it is advisable to use the |FORMAT command. This will leave the extra 64k in a form that can be sensibly used to store files.

Using the other command |M will log the ram-disk in. All Amsdos commands are compatible with the newly installed system, such as

DIR,"M:" or
SAVE"M:FILE.BIN"

If you wish to transfer the *Ramdisk* files to disk, carry out the following procedure:

```
|TAPE.IN
LOAD"RAMDISC.BAS"
SAVE"RAMDISC.BAS"
MEMORY &2000
LOAD"D.BIN"
SAVE"D.BIN",B,&8000,&E20
```

Fastform

by Richard Monteiro *Amstrad Action*

Fed up of having to load up CP/M just in order to format a disk? This handy utility will format a disk to your choice of formats: System, Vendor, Data, IBM or a new BIGK. Unfortunately a small bug has crept into the tapedprogram that causes an error message to appear before it formats a disk. The offending line is 180. If you remove the command |DISC.@art$ from that line then all will be well.

A menu will appear requesting you to choose the type of format required; just follow the prompts and there should be no problem.

BIGK will format a disk to hold 206k. The first track will be formatted in ordinary data format while the remaining ones will be formatted to a completely new specification. A file called BIGK will be written to the disk; running this will allow you to get to all that extra storage space.

All the conventional formats have nine sectors per track, except IBM which has eight. The BIGK format however has ten sectors per track – if each sector holds 0.5k of data, it is quite easy to see how the extra storage space is acquired.

It is possible to use BIGK for loading and saving files under Amsdos – but not under CP/M. You may also have difficulty transfering files from one format to another – this will be explained in a future article. The reason, briefly, is that the XPB (expanded disk parameter block) has been altered and will allow only reading of the BIGK format. If you follow the steps below, you should be able to transfer files by hand – this is by no means ideal, but will suffice for the time being.

For basic file transfer, insert the source disk and then type, in direct mode:

```
LOAD"filename"
```

Insert the destination disk and type:

```
FOR t=0 TO 1:POKE &A8A8+dr,&FF
POKE &A890+dr,&28:POKE &A895+dr,&D0
POKE &A89D+dr,1:POKE &A89F+dr,&30
POKE &A8A0+dr,&A:POKE &A8A2+dr,&32
POKE &A8A3+dr,&E5:POKE &A8A1+dr,&20
NEXT t
SAVE"filename"
```

If you wish to read ordinary disks, you will have to enter the following:

```
FOR t=&A890 to &A890+180
POKE t,0:NEXT t
```

To transfer a binary file, just load it into memory, then run the BIGK file, and save as normal.

In following months I'll delve more deeply into the disk operating system and hopefully answer any questions you may have on this program.

To transfer the BIGK utility from the cassette to disk, type in direct mode:

```
|TAPE.IN
MEMORY &1FFF
LOAD"FASTFORM.BAS"
SAVE"FASTFORM.BAS"
LOAD"KSAVER.BIN",&7000
LOAD"FORMAT.BIN",&2E00
SAVE"KSAVER.BIN",B,&7000,&300
SAVE"FORMAT.BIN",B,&2E00,&1000
```

Blitter

Paul Bond
St Helens

This program mimics certain high-powered – and higher priced – micros with their exceedingly fast graphics capabilities.

The demo is of a huge red and white ball, constantly rotating and bouncing around a grid background. After you have watched in amazement for a while, you may wonder how on earth Paul manages this mighty feat with only 3k of Basic.

The secret is that rather than moving the ball around, he moves the whole screen. This is an in-built hardware feature of the Amstrad and can be carried out gracefully and effortlessly.

Drumkit

John Keneally
Devon

A fantastic drum-kit synthesizer which will transform your Amstrad into a surprisingly good rhythm unit.

You can switch among three grids, one for each of the Amstrad's sound channels. Each of the 48 vertical lines in the grid marks a different beat. The up and down cursor (arrow) keys will get you to the required sound; left and right will move you to a different beat.

All three channels will play simultaneously whilethe program is running, so any changes you make will be instantly audible. Pressing the F or S key will cause the rhythm to be played faster or slower. One other nice feature is that you can save your creations to cassette or disk and later load them back in.

Gigo

John Ablett
Wakefield

The idea of this program is to let you hold a conversation with the highly esteemed television personality, Max Headroom. Max moves his lips while his message is printed on the screen.

Type in your reply, and Max will utter something else. It may be of no relevance to what you said, but then that's Max down to a tee.


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Trailblazer

HOT TIPS

There has been a flood of tips since this section started its life last issue. Keep them coming – the best one could win you a few bob.

DATA from nowhere

After running the program below, you should find on your disc or tape a file called DATA.BIN. To load it into memory, type MEMORY 42000:LOAD "DATA.BIN".

What on earth does the program do? Well, if you have an area of memory full of code, and you wish to convert that to a list of DATA statements, then this is for you. The syntax for creating the DATA statements is:

```
CALL 42001, <start address>, <number
 of lines>
```

where start address is the memory location where all the bytes you wish converted to DATA statements are stored. Number of lines refers to the number of Basic DATA statements that will be produced.

So, for example, this line will cause the bytes from address 7000 to be produced within six DATA statements:

```
CALL 42ØØ1,7ØØØ,6
```

Type in the listing and you should be well away. Data lines will be produced identical to these:

```
1Ø lin=11:size=(2Ø*lin)-1:add=42ØØ1
2Ø FOR mark=add TO add+size
3Ø READ a$:IF LEN(a$)=4 THEN GOSUB 1
2Ø
4Ø byte=VAL("&"+a$):tot=tot+byte
5Ø POKE mark,byte
6Ø NEXT mark
7Ø ' De-
REM the following two lines if
   your machine is 664 or 6128
8Ø ' POKE &A418,&66:POKE &A49F,&66:
   POKE &AEA2,&68
9Ø 'POKE &AEA9,&6A:POKE &AEAC,&6C
1ØØ SAVE "data.bin",b,add,size 11Ø E
ND
12Ø chk=VAL("&"+a$):IF chk<>tot THEN
 PRINT
   "Error in data":PRINT CHR$(7):EN
D
13Ø READ a$:tot=Ø:RETURN
14Ø DATA 21,ØØ,ØØ,22,D9,A4,2A,83,AE,
28,2B,
   DD,56,Ø3,DD,5E,Ø2,DD,46,ØØ,Ø7Ø7
15Ø DATA C5,CD,3Ø,A4,C1,1Ø,F9,CD,78,
A4,C9,
   3E,47,77,23,23,73,23,72,23,Ø94F
16Ø DATA 3E,8C,77,23,3E,2Ø,77,23,Ø6,
14,C5,
   CD,AF,A4,E5,2A,D9,A4,3A,D8,Ø8F9
17Ø DATA A4,4F,Ø6,ØØ,Ø9,22,D9,A4,E1,
C1,3E,
   2C,77,23,1Ø,E6,DD,21,D9,A4,Ø8B8
18Ø DATA DD,7E,Ø1,CD,B4,A4,DD,7E,ØØ,
CD,B4,
   A4,3E,ØØ,DD,77,ØØ,DD,77,Ø1,Ø9E8
19Ø DATA 77,23,C9,3E,ØA,77,23,23,73,
23,72,
   23,3E,BF,77,23,3E,22,77,23,Ø624
2ØØ DATA 3E,A4,77,23,3E,4A,77,23,3E,
54,77,
   23,3E,ØØ,77,23,77,23,77,23,Ø5D6
21Ø DATA 77,22,83,AE,22,85,AE,Ø1,Ø9,
ØØ,Ø9,
   22,87,AE,22,89,AE,C9,1A,32,Ø6F7
22Ø DATA D8,A4,13,Ø6,ØØ,4F,CB,1F,CB,
1F,CB,
   1F,CB,1F,E6,ØF,FE,ØA,3Ø,Ø6,Ø7BF
23Ø DATA C6,3Ø,77,23,18,Ø4,C6,37,77,
23,78,
   FE,Ø1,C8,79,Ø6,Ø1,18,E7,E7,Ø7E8
24Ø DATA ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,
ØØ,ØØ,
   ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØ,ØØØØ
```

JT, who forgot to give his address

Bordering on superdazzle

Seeing your attempt last month at making a 'dazzling border' made me laugh. Here is a Basic program which will give you a much better effect. It will continue dazzling no matter what the computer is doing!

```
1Ø FOR t=&8ØØØ TO &8Ø1C:READ a$ 2Ø P
OKE t,VAL("&"+a$):NEXT t
3Ø CALL &8ØØØ
4Ø DATA 21,15,8Ø,C3,E3,BC,Ø6,7F,ØE
5Ø DATA 1Ø,ED,5F,E6,11,F6,4Ø,ED,49
6Ø DATA ED,79,C9,ØØ,ØØ,ØØ,ØØ,ØØ,81
7Ø DATA Ø6,8Ø
```

Roy Makely
Hampshire

Moving Basic

I am amazed that nobody has come up with a poke to change the start address of Basic. Here is my offering. Just poke the locations below with the required new memory position.

464 users:

```
POKE &AE81,lowbyte
POKE &AE82,highbyte
POKE &AE83,lowbyte + 3
POKE &AE84,highbyte
POKE &AE85,lowbyte + 3
POKE &AE86,highbyte
POKE &AE87,lowbyte + 12
POKE &AE88,highbyte
POKE &AE89,lowbyte + 12
POKE &AE8A,highbyte
```

664 or 6128 users:

```
POKE &AE64,lowbyte
POKE &AE65,highbyte
POKE &AE66,lowbyte + 3
POKE &AE67,highbyte
POKE &AE68,lowbyte + 3
POKE &AE69,highbyte
POKE &AE6A,lowbyte + 12
POKE &AE6B,highbyte
POKE &AE6C,lowbyte + 12
POKE &AE6D,highbyte
```

Miguel Rocha
Oeiras, Portugal

Muddling modes

Did you know it is possible to mix modes on the screen without having any fancy interrupts going? No, well read on. If you own a 464 then type in direct mode the following:

```
MODE 2
POKE &B1CF,&CØ:POKE &B1DØ,&3Ø
POKE &B1D1,&ØC:POKE &B1D2,&Ø3
POKE &B1C8,1
```

For owners of 664s or 6128s:

```
MODE 2
POKE &B7C6,&CØ:POKE &B7C7,&3Ø
POKE &B7C8,&ØC:POKE &B7C9,&Ø3
POKE &B7C3,1
```

These pokes actually alter data used by the Basic operating system to tell it which mode is currently in effect and other information regarding screen layout.

Unfortunately 664 or 6128 owners will not get quite the desired effect. The image will appear blurred. Perhaps somebody out there knows differently – if so please send in details.

The listing below, for 464 owners only, will allow you to display text in Mode 2 that is of any Mode size. For example, 80 characters can be displayed in one line in Mode 2; the program below will allow both 40 and 20 columns of text. The new commands available are MODE2, MODE1 and MODE0. One restriction to note, though: make sure you are in Mode 2 before using the routine; otherwise strange effects will result.

```
1Ø FOR t=&8ØØØ TO &8ØCB:READ a$
2Ø v=v+VAL("&"+a$)
3Ø POKE t,VAL("&"+a$):NEXT
4Ø IF v<>1Ø18Ø THEN PRINT"ERROR":STO
P
5Ø MODE 2:CALL &8ØØØ
6Ø PRINT"COMMANDS AVAILABLE: "
7Ø PRINT" MODE2,  MODE1 and  MODEØ"
8Ø DATA 21,ØA,8Ø,Ø1,ØE,8Ø,CD,D1,BC,C
9
9Ø DATA ØØ,ØØ,ØØ,ØØ,19,8Ø,C3,29,8Ø,C
3
1ØØ DATA 3A,8Ø,C3,48,8Ø,4D,4F,44,45,
B2
11Ø DATA 4D,4F,44,45,B1,4D,4F,44,45,
BØ
12Ø DATA ØØ,21,C8,B1,36,Ø2,21,5C,8Ø,
11
13Ø DATA CF,B1,Ø1,Ø8,ØØ,ED,BØ,C9,21,
C8
14Ø DATA B1,36,Ø1,21,64,8Ø,11,CF,B1,
Ø1
15Ø DATA Ø4,ØØ,ED,BØ,C9,21,C8,B1,36,
ØØ
16Ø DATA 21,68,8Ø,11,CF,B1,Ø1,Ø4,ØØ,
ED
17Ø DATA BØ,C9,8Ø,4Ø,2Ø,1Ø,Ø8,Ø4,Ø2
18Ø DATA Ø1,CØ,3Ø,ØC,Ø3,AA,55,7C,E6
```

Paul Smith
St Helens, Merseyside

PROBLEM ATTIC



Before I go into any further detail on cassette loading and its associated problems, I must apologise for some very silly mistakes (detailed almost in full by S Gamble) made last month - late nights, you understand.

Answers awry

I hereby claim my prize for spotting the deliberate mistoke on pages 35-35 of the December issue.

Firstly, KL Find Command expects to have a character string to search with (better than boring old numbers), and looking in my 6128 firmware guide (eat your heart out, John Thompson) I find that the string for Read Sector is Control-D.

However, the end of the string has to be marked so KL Find Command knows where to stop. This is done by setting bit 7 of the last character. As Control-D is only one character long, you set bit 7 of this, ie, add &80. (The CP/M rom is actually a background rom anyway. If it were a foreground rom the machine would do a cold boot after every disk access!)

So, adding &80 to Control-D gives us &83, right? Wrong! Amstrad made a (deliberate?) mistake with the 464 manual and Control-D is &04. No doubt someone told them, which is why the 6128 manual is okay. They've also done a demo on page 10.10 of the 6128 firmware spec.

Of course, I realise you knew this all along and only wanted to see if anyone actually reads what you write.

All in all, a brill mag. Anytime you need your drafts proofread before printing, ... Yours with 20/20 vision.

SH Gamble
Reading, Berks

I must not make up dreadful lies. I must not make up dreadful lies. I must not ...

Well spotted! Unfortunately it has to be 19/20 vision as there was another delikabe misberate - notably that LD HL,store should in fact have been LD (store),HL.

Legs eleven

As promised last issue, the best bingo program sent in after DR Brown's plea, would be printed. Adrian Pegg from Palmers Green in London has come up with a neat solution. It is short and very nicely executed. All the instructions are tagged into REM statements.

Back to cassette loading

One point I failed to mention last month concerning external cassette decks: you may not have remote-control on your deck. This causes problems when loading certain commercial software that insists on stopping the cassette motor while it draws a title screen or something.

There is no simple way of overcoming this problem. The only thing I can suggest is that every time you hear a relay click in your CPC, pause the tape till another click.

There is certain, very old, software that insists on having all the memory it can grab. Machines with a disk drive will reserve about 500 bytes of memory - if not more. The result is that these software packages will not run on your Amstrad. Here is a short program that will reclaim all memory, giving a completely free machine:

```
10 FOR t=&A000 TO &A017
20 READ a$:POKE t,VAL("&"+a$)
30 NEXT t:CALL &A000
40 DATA 21,08,A0,0E,FC,CD,16
50 DATA BC,3E,C9,32,CB,BC,11
60 DATA 40,00,21,FF,AB,DF,16
70 DATA A0,06,C0
```

Fabled listing

Here is that promised listing from J Keneally of Exeter. The utility checks the health of your tape drive - not for azimuth but for defects in the mechanics.

It works by recording a fixed-frequency test tape, then replaying it to measure fluctuations in frequency every 0.1 of a second. These are plotted on a graph as speed variations over $\pm5\%$ of the average.

Several things can be deduced from the graph. If there is a general trend downwards with time, it indicates a tight wind-off

```
10 ' BINGO
20 ' Adrian Pegg
30 ' Amstrad Action   Jan 87
40 ' SPACE to call number
50 ' H to start new game
60 DIM bingo(90):MODE 1:SPEED INK 40,40
70 INK 1,25:INK 2,16,3:INK 3,22
80 WINDOW#1,2,8,6,12:PAPER#1,3:CLS#1
90 WINDOW#1,1,7,5,11:PAPER#1,1:PEN#1,2
100 CLS#1:PRINT#1:PRINT#1,"'SPACE'"
110 PRINT#1:PRINT#1:PRINT#1,"TO CALL"
120 WINDOW#2,2,8,16,20:PAPER#2,3:CLS#2
130 WINDOW#2,1,7,15,19:PAPER#2,1:PEN#2,0
140 CLS#2:PRINT#2:PRINT#2," COUNT"
150 WINDOW#3,11,40,4,22:PAPER#3,3:CLS#3
160 WINDOW#3,10,39,3,21:PAPER#3,1:CLS#3
170 PEN#3,0:FOR i=1 TO 90
180 bingo(i)=i:NEXT:PEN#1,0
190 LOCATE 18,1:PAPER 3:PEN 0
200 PRINT" B I N G O !! ":PAPER 0:PEN 1
210 LOCATE#2,3,4:PRINT#2,USING "##";c
220 RANDOMIZE TIME
230 d$=UPPER$(INKEY$)
240 IF d$="H" THEN RUN ELSE
    IF d$<>" " GOTO 210
250 IF c<90 THEN a%=(RND*89)+1 ELSE RUN
260 IF bingo(a%)<>0 THEN bingo(a%)=0
    ELSE 250
270 LOCATE #1,3,4
280 PRINT#1, USING "##";a%:c=c+1
290 LOCATE#3,((a%-1) MOD 10)*3+1,
    INT(1+(a%-1)/10)*2
300 PRINT#3,USING "###";a%:GOTO 210
```

PROBLEM ATTIC



spool. Occasional sharp peaks would point to 'snatching' of the spool. A regular variation indicates a fault related to rotation of a part of the mechanism – the frequency of this will give a clue to which part.

At the end of the test you will get a read-out of the maximum and minimum variation. For a good drive these should be within ±1%. Anything over ±3% suggests a problem.

The most common of these is the pinchwheel.

The program gives you two more graphs to help in diagnosing this. The first shows a filtered version of the original graph, making it easier to see any regular changes. If you can line up the pinchwheel grid with regular peaks (use Shift and the cursor keys for faster motion) it indicates slippage each time the pinchwheel rotates. This can be taken further by pressing E to take you onto a frequency spectrum plot of the section around the grid.

```
1 ' SPEED CHECKER
2 ' J Keneally
3 ' Jan 87 Amstrad Action
1Ø MEMORY 41999 GOSUB 1Ø5Ø
2Ø MODE 2:DEFINT i,k:DIM v(6ØØ),f(5Ø)
3Ø WINDOW#1,1,8Ø,5,24
4Ø CLS:LOCATE 3Ø,1
5Ø PRINT"Tape speed checker."
6Ø CLS#1:WINDOW#2,3Ø,5Ø,11,14
7Ø PRINT#2,"1. Create test tape."
8Ø PRINT#2:PRINT#2,"2. Run a test."
9Ø GOSUB 126Ø:IF a$-"2" THEN 16Ø
1ØØ IF a$<>"1" THEN 9Ø ELSE CLS#1
11Ø LOCATE 2Ø,12:PRINT"Load test tape ";
12Ø PRINT"for recording. Press any key."
13Ø GOSUB 126Ø:CALL &BC6E
14Ø FOR i-1 TO 2ØØØ:NEXT
15Ø CALL 42Ø5Ø,12ØØ:CALL &BC71:GOTO 4Ø
16Ø CLS#1:LOCATE 2Ø,12
17Ø PRINT "Load test tape, press ";
18Ø PRINT"PLAY then any key"
19Ø GOSUB 126Ø
2ØØ CALL &BC71:CALL &BC6E
21Ø FOR i-1 TO 2ØØ:NEXT
22Ø CLS#1:ORIGIN Ø,Ø,Ø,639,399,Ø
23Ø DRAWR -6Ø4,Ø:DRAWR Ø,3Ø4
24Ø i1-1Ø:GOSUB 74Ø
25Ø GOSUB 1Ø2Ø
26Ø LOCATE 3Ø,3:PRINT"Running test"
27Ø av-Ø:FOR i-1 TO 2Ø
28Ø i2-Ø:CALL 42ØØØ,@i2
29Ø IF i2>3ØØ AND (i2<5ØØ) THEN
    av-av+i2 ELSE 28Ø
3ØØ NEXT
31Ø iav-av/2Ø:var-Ø.Ø5*iav
32Ø plus--1ØØ:minus-1ØØ
33Ø FOR i-1 TO 6ØØ:i2-Ø
34Ø CALL 42ØØØ,@i2:PLOT i,Ø
35Ø change-(i2-iav)/var:v(i)-change
36Ø DRAWR Ø,change*15Ø
37Ø plus-MAX(plus,change)
38Ø minus-MIN(minus,change)
39Ø NEXT
4ØØ CALL &BC71
41Ø LOCATE 1,23:PRINT"Test over. ";
42Ø PRINT"Peak variation is:";
43Ø PRINT INT(5Ø*plus)/1Ø;" to ";
44Ø PRINT INT(5Ø*minus)/1Ø;" %"
45Ø LOCATE 3Ø,25
46Ø PRINT"Press any key to continue."
47Ø GOSUB 126Ø
48Ø GOSUB 64Ø
49Ø GOSUB 71Ø:PRINT CHR$(23) CHR$(1);
5ØØ ix-Ø:GOSUB 61Ø
51Ø LOCATE 1,24:PRINT CHR$(2Ø);
52Ø PRINT"Pinch-wheel grid. Move ";
53Ø PRINT"using L/R arrow keys"
54Ø PRINT"Press E to continue."
55Ø GOSUB 126Ø
56Ø IF a$-"E" THEN GOSUB 8ØØ:GOTO 49Ø
57Ø GOSUB 61Ø:i-ASC(a$)
58Ø IF i-242 OR (i-246) THEN
    ix-MAX(Ø,ix-i+241)
59Ø IF i-243 OR (i-247) THEN
    ix-MIN(ix+i-242,53Ø)
6ØØ GOSUB 61Ø:GOTO 55Ø
61Ø a-ix
62Ø FOR i1-Ø TO 9:PLOT a,-5Ø:DRAWR Ø,1ØØ
63Ø a=a+6,68:NEXT:RETURN
64Ø LOCATE 1,24:PRINT CHR$(2Ø);
65Ø PRINT"Filtered plot coming."
66Ø t-Ø:FOR i-1 TO 6ØØ
67Ø t-Ø.95*t+Ø.Ø5*v(i):v(i)-v(i)-t:NEXT
68Ø t-(v(1)+v(2)+v(3))/3:FOR i-3 TO 599
69Ø v(i)-t:t-Ø.5*t+Ø.5*v(i+1):NEXT
7ØØ RETURN
71Ø CLG:i1-1Ø:GOSUB 74Ø
72Ø FOR i-3 TO 599:PLOT i,Ø
73Ø DRAWR Ø,v(i)*15Ø:NEXT:RETURN
74Ø ORIGIN 2Ø,2ØØ,2Ø,62Ø,35Ø,5Ø
75Ø PLOT Ø,-15Ø
76Ø DRAWR Ø,3ØØ:PLOT 599,-15Ø
77Ø DRAWR Ø,3ØØ:PLOT Ø,-15Ø
78Ø FOR i-Ø TO i1:DRAWR 6ØØ,Ø
79Ø MOVER -6ØØ,3Ø:NEXT:RETURN
8ØØ PRINT CHR$(23) CHR$(Ø);:k1-ix
81Ø LOCATE 1,24:PRINT CHR$(2Ø);
82Ø PRINT"Calculating spectrum."
83Ø t-Ø:FOR i=k1 TO k1+49
84Ø t=t+v(i):NEXT:t-t/5Ø
85Ø b-2*PI/5Ø:RAD:fmx-Ø
86Ø FOR k-Ø TO 24:f1-Ø:f2-Ø
87Ø b1-b*k:FOR i-Ø TO 49
88Ø f3=v(i+k1)-t:f1-f1-f3*SIN(b1*i)
89Ø f2-f2+f3*COS(b1*i):NEXT
9ØØ f(k)-SQR(f1*f1+f2*f2)
91Ø fmx-MAX(fmx,f(k)):NEXT
92Ø CLS#1:i1--1:GOSUB 74Ø
93Ø PLOT Ø,-15Ø:DRAWR 6ØØ,Ø
94Ø FOR i-Ø TO 24:PLOT i*24,-15Ø
95Ø i1-f(i)/fmx*3ØØ:DRAWR Ø,i1
96Ø DRAWR 24,Ø:DRAWR Ø,-i1
97Ø IF i>5 AND (i<9) THEN FOR i2=1
    TO 24:MOVER -1,i1:DRAWR Ø,-i1:NEXT
98Ø NEXT
99Ø LOCATE 1,24:PRINT CHR$(2Ø);
1ØØØ PRINT"Press any key to continue"
1Ø1Ø WHILE INKEY$-"":WEND:RETURN
1Ø2Ø LOCATE 1,3:PRINT"+5%"
1Ø3Ø LOCATE 1,23:PRINT"-5%"
1Ø4Ø LOCATE 1,13:PRINT"Ø":RETURN
1Ø5Ø RESTORE 1Ø5Ø
1Ø6Ø GOSUB 1Ø7Ø
1Ø7Ø READ a,a$
1Ø8Ø WHILE a$<>""
1Ø9Ø FOR i-1 TO 19 STEP 2
11ØØ i1-VAL("&"+MID$(a$,i,2)):POKE a,i1
111Ø a-a+1:NEXT:READ a$:WEND
112Ø RETURN
113Ø DATA 42ØØØ
114Ø DATA f3Ø1ØØf511ØØØØ216419
115Ø DATA Øe ØØed78e68Øb928Ø213
116Ø DATA 4f2b7cb52Øf2dd6eØØdd
117Ø DATA 66Ø1732372fbc9ØØØØØØ
118Ø DATA ""
119Ø DATA 42Ø5Ø
12ØØ DATA f3Ø1ØØf6dd5eØØdd56Ø1
121Ø DATA 2ec92d2ØØ97ec81b7bb2
122Ø DATA 2ØØ7fbc93eØ33d2Øfd3e
123Ø DATA 1Øed793e3d3d2Øfd3c3Ø
124Ø DATA ed793e393d2Øfd18dbØØ
125Ø DATA ""
126Ø a$-"":WHILE a$-"":a$-INKEY$:WEND
127Ø a$-UPPER$(a$):RETURN
```

That listing ends an exaustive look at tape loading problems; if your troubles are still not resolved after following all the instructions, then it is best to take it to your dealer for a professional look.

TYPE-INS

Calendar

Here is a very appropriate listing for the January 1987 issue. **R Bellerby** of Hessle, North Humberside, has written a brilliant calendar generator. It will print a calendar for any year between 1800 and 2500 to either screen or printer.

The clever thing about the program is that it takes into account not only leapyears, but also that century years should *not* be leapyears unless they are divisible by 400. Thus 1800 and 1900 were not leapyears although 2000 will be.

You might think the program could be easily amended to print years before the 1800s. Not so simple. A bit of history: Our present 12-month calendar dates back to Julius Caesar. It originally did not have the century-year rule, and by the 1500s was 10 days out of sync with the seasons. In 1582 Pope Gregory decreed 15 October was to come immediately after 4 October; much of the world obeyed. But non-Catholic countries weren't in the mood for papal bull. England, for example, waited until 1752 and dropped 12 days; Russia resisted until almost 1920.

So if you want to extend the program before 1800 you'll have to take political complications into account – you might be able to sell your work to harrassed historians.

1987 CALENDAR

```
10 ' Calendar
20 ' R Bellerby
30 ' Amstrad Action        January 1987
40 DIM lastday(12),day(12)
50 ' Printer Codes
60 ESC$ = CHR$(27): SO$ = CHR$(14)
70 MODE 1: INK 1,24: INK 0,1
80 PAPER 0: BORDER 1
90 LOCATE 16,1: PRINT "CALENDAR"
100 LOCATE 15,2: PRINT "----------"
110 PRINT:PRINT:LOCATE 5,5
120 INPUT "Enter year:- ",year
130 IF year<1800 OR year>2500 GOTO 120
140 LOCATE 5,9:PRINT"S - Screen output"
150 LOCATE 5,11
160 PRINT"P - Printer output"
170 a$=UPPER$(INKEY$)
180 IF a$<>"P" AND a$<>"S" GOTO 170
190 IF a$="S" THEN str=0 ELSE str=8
200 ' Read lastday for each month
210 RESTORE
220 FOR x - 1 TO 12
230 READ lastday(x):NEXT x
240 ' Check for leapyear
250 IF year MOD 400 - 0 GOTO 280
260 IF year MOD 100 - 0 GOTO 290
270 IF year MOD 4 <> 0 GOTO 290
280 lastday(2) - 29
290 ' Start printing calendar
300 IF str-0 THEN GOSUB 1170:GOTO 350
310 LOCATE 5,16
320 PRINT"Printing Calendar for";year
330 PRINT #8,TAB(35);ESC$;"E";SO$;year
340 PRINT #8
350 PRINT #str
360 ' Print six pairs of months
370 FOR pairs - 2 TO 12 STEP 2
380 ON pairs/2 GOSUB 990,1020,1050,
      1080,1110,1140
390 PRINT #str
400 PRINT #str,TAB(8);"SUN MON TUE";
410 PRINT #str," WED THU FRI SAT";
420 PRINT #str,TAB(47);"SUN MON TUE ";
430 PRINT#str,"WED THU FRI SAT"
440 ' Print a pair of months
450 FOR month - pairs-1 TO pairs
460 c - c+1
470 ' Calculate day on which 1st occurs
480 IF month > 2 GOTO 530
490 ' Modify month and year for formula
500 monthf - month+12
510 yearf - year-1
520 GOTO 550
530 monthf - month
540 yearf - year
550 first-1+2*monthf+INT(0.6*(monthf+1))+
      yearf+INT(yearf/4)-INT(yearf/100)
      +INT(yearf/400)+2
560 firstday-INT((first/7-
      INT(first/7))*7+0.5)
570 IF firstday-0 THEN firstday-7
580 ' 1 - Sunday ----- 7 - Saturday
590 day(month) - 0
```

Fast Basic double-height

Remember last month's double-height routine by Leighton Derrick from West Glamorgan? Well, I was inundated with routines for fast double-height written in Basic.

The shortest and fastest is by **Chris Boothman** of Shepton Mallet, Somerset. It can be easily incorporated into your own programs. Just place the string you wish to appear double-height into s$; the position where you wish it to be placed on the screen should be entered into the variables x any y.

```
10 ' Fast Basic double-height
20 ' Chris Boothman
30 ' Amstrad Action     Jan 87
40 SYMBOL AFTER 33:MODE 1
50 s$="Hello Readers!":x=13:y=10
60 GOSUB 70:END
70 ' Print string
80 FOR w=1 TO LEN(s$)
90 IF MID$(s$,w,1)=" " THEN q$=" ":
   w$=q$:GOTO 140
100 m=(HIMEM+1)+(ASC(MID$(s$,w,1))-33)
    *8
110 SYMBOL 254,PEEK (m),PEEK (m),PEEK
    (m+1),PEEK (m+1),PEEK (m+2),PEEK
    (m+2),PEEK (m+3),PEEK (m+3)
120 SYMBOL 255,PEEK (m+4),PEEK (m+4),
    PEEK (m+5),PEEK (m+5),PEEK (m+6),
    PEEK (m+6),PEEK (m+7),PEEK (m+7)
130 q$=CHR$(254):w$=CHR$(255)
140 LOCATE (x-1)+w,y:PRINT q$
141 LOCATE (x-1)+w,y+1:PRINT w$
150 NEXT w:RETURN
```

 Hark, I hear...

Snowstorm

Worried that there will be no white Christmas this year? Fear not, as **Shaun Garrad** of Warwickshire has come up with the perfect answer – a snow generator. Just type in the listing, and marvel at all that snow...

```
1 Snowstorm
2 Shaun Garrad
3 Amstrad Action    Jan 87
10 INK 0,0:BORDER 0:INK 1,26:MODE 0
20 FOR a=1 TO 640 STEP 15
30 c=2+INT(RND*14)
40 FOR b=400 TO 1 STEP -4:PLOT a,b,c
50 PLOT a,b-2,c:c=c+RND*2
60 IF c>15 THEN c=2
70 NEXT b:NEXT a:FOR b=0 TO 400 STEP 2
80 FOR x=1 TO 2:FOR a=2 TO 15:INK a,26
90 CALL &BD19:INK a,0:NEXT a:NEXT x
100 PLOT 0,b,1:DRAW 640,b,1:NEXT b
110 WHILE INKEY$="":WEND
```

```
600 ' Print first calendar line
610 FOR t=8+(firstday-1)*4+(c-1)*39
    TO 32+(c-1)*39 STEP 4
620 day(month)=day(month)+1
630 PRINT #str,TAB(t);
640 PRINT #str,USING "##";day(month);
650 NEXT t
660 ' last date printed for month
670 NEXT month
680 c=0:PRINT #str
690 ' Complete calendar for months
700 FOR row=1 TO 5
710 FOR month=pairs-1 TO pairs
720 c=c+1
730 FOR t=8+(c-1)*39 TO 32+(c-1)*39
    STEP 4
740 day(month)=day(month)+1
760 IF day(month)>lastday(month)
    GOTO 800
760 PRINT #str,TAB(t);
770 PRINT #str,USING"##";day(month);
```

```
780 NEXT t
790 ' Last date printed for month
800 NEXT month
810 c=0
820 PRINT #str
830 NEXT row
840 PRINT #str
850 ' Pause printout to screen
860 IF str=8 OR pairs MOD 4>0 GOTO 930
870 LOCATE 26,24
880 PRINT"PRESS SPACE BAR TO CONTINUE"
890 a$=UPPER$(INKEY$)
900 IF a$<>" " GOTO 890
910 IF pairs=12 GOTO 930
920 CLS:GOSUB 1170:PRINT
930 NEXT pairs
940 PRINT #str
950 GOTO 70
960 DATA 31,28,31,30,31,30
970 DATA 31,31,30,31,30,31
```

```
980 END
990 PRINT #str,TAB(18);"JANUARY";
1000 PRINT #str,TAB(56);"FEBRUARY"
1010 RETURN
1020 PRINT #str,TAB(19);"MARCH";
1030 PRINT #str,TAB(58);"APRIL"
1040 RETURN
1050 PRINT #str,TAB(20);"MAY";
1060 PRINT #str,TAB(58);"JUNE"
1070 RETURN
1080 PRINT #str,TAB(19);"JULY";
1090 PRINT #str,TAB(57);"AUGUST"
1100 RETURN
1110 PRINT #str,TAB(17);"SEPTEMBER";
1120 PRINT #str,TAB(57);"OCTOBER"
1130 RETURN
1140 PRINT #str,TAB(17);"NOVEMBER";
1150 PRINT #str,TAB(56);"DECEMBER"
1160 RETURN
1170 MODE 2:INK 1,0:INK 0,13:BORDER 13
1180 PRINT: PRINT TAB(38); year: RETURN
```





Classi
arcade action with this all time coin-op favourite

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Artist

The listings this month have, in general, greatly increased in size. This one, from **Simon Watson** in Cornwall, is no exception. It was chosen from many similar listings because of its comparative short length, execution speed and impressive list of options.

Explanation is in order, as there are no instructions within the program. First, it is necessary to press the Caps-Lock key before trying anything else, as the program looks out for upper-case characters. This is a list of options available and how to access them:

A – Switches airbrush mode on and off.
B – Alters brush size of airbrush and paint facilities.
C – Draws a circle of desired radius.
D – Draws a filled-in circle of desired radius.
F – Freehand mode on/off.
I – Change the ink colour.
L – Loads a picture into memory.
N – Alters density of airbrush.
O – Changes origin to current cursor position.
P – Painting-brush on/off.
R – Draws straight line from origin to current cursor position, but does not alter origin.
S – Saves a picture.
T – Draws straight line from origin to cursor position, and changes the origin.
X – Plots a single pixel.
DEL – Deletes the last drawing command from screen.
Control-W – Wipes picture.

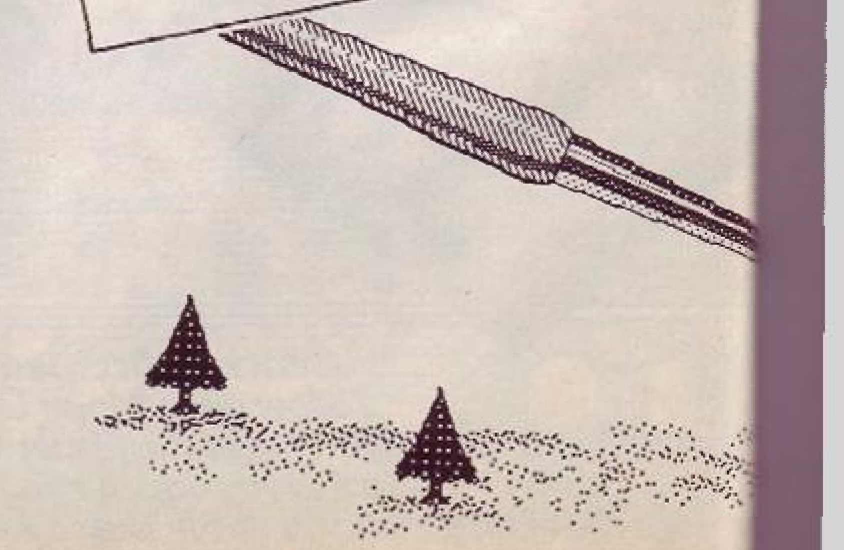
```
10 ' Wandering through space
20 ' Julian Smalley
30 ' Amstrad Action          Jan 87
40 MODE 0:INK 15,26:DEFINT a-z
50 DEG:INK 0,0:BORDER 0
60 FOR f=1 TO 360 STEP 6
70 p=INT(RND*(14)+1)
80 FOR z=30 TO 320 STEP INT
   (RND*(5)+1)+5
90 PLOT 320+z*SIN(f),250+z*COS(f),p
100 p=p+1:IF p=15 THEN p=1
```

```
110 NEXT:NEXT:FOR y-1 TO 100 STEP 2
120 MOVE 1,y
130 DRAW 640,y,0:NEXT:MOVE 1,1
140 DRAW 1,399,15:DRAW 639,399,15
150 DRAW 639,1,15:MOVE 1,1
160 DRAW 1,100,15:DRAW 639,100
170 DRAW 639,1:DRAW 1,1:MOVE 20,20
180 DRAW 20,80,15:DRAW 100,80,15
190 DRAW 100,20,15:DRAW 20,20,15:p=1
200 FOR x-24 TO 98 STEP 4:MOVE x,22
210 DRAW x,50,p:DRAW x,78,(15-p)
```

```
220 p=p+1:IF p=15 THEN p=1
230 NEXT:MOVE 120,20:DRAW 120,80,15
240 DRAW 200,80,15:DRAW 200,20,15
250 DRAW 120,20,15:p=1
260 FOR y=22 TO 78 STEP 2:MOVE 124,y
270 DRAW 160,y,p:DRAW 198,y,(15-p)
280 p=p+1:IF p=15 THEN p=1
290 NEXT:p2=7:p=1
300 FOR f=1 TO 360 STEP 25.7142857
310 MOVE 260,50:DEG
320 DRAW 260+40*SIN(f),50+40*COS(f),p
```

```
10 ' Artist
20 ' Simon Watson
30 ' Amstrad Action    Jan87
40 DIM B%(15)
50 GOSUB 610:GOSUB 620:
   GOSUB 650:GOSUB 400
60 ' **** Main Loop ****
70 IF INKEY(K%(K+1))>-1 THEN Y%-B%+2
80 IF INKEY(K%(K+2))>-1 THEN Y%-B%-2
90 IF INKEY(K%(K+3))>-1 THEN X%-A%-D%
100 IF INKEY(K%(K+4))>-1 THEN X%-A%+D%
110 Z$-INKEY$:IF Z$<>"" THEN Z-ASC(Z$):
    IF Z>22 AND Z<91 THEN Z$-UPPER$(Z$)
    :GOSUB 190
120 IF D1%-0 THEN PLOT A%,B%,T% ELSE
    PLOT A%,B%,COL%
130 IF INKEY(79)>-1 AND D1%-0 THEN GOSUB
    410 ELSE T%-TEST(X%,Y%):IF T%-1 THEN
    PLOT X%,Y%,0 ELSE PLOT X%,Y%,1
140 CALL &BD19
150 IF D2%-1 THEN MOVE X%-(BRUSH/4),
    Y%+(BRUSH/4):DRAWR BRUSH/2,0,COL%:
    DRAWR 0,-BRUSH/2:DRAWR -BRUSH/2,0:
    DRAWR 0,BRUSH/2
160 IF D3%-1 THEN FOR N-1 TO DENS%:
    E%-INT(RND*BRUSH):E%-E%-(BRUSH/2):
    F%-INT(RND*BRUSH):F%-F%-(BRUSH/2):
    PLOT E%+X%,F%+Y%,COL%:NEXT
170 A%-X%:B%-Y%:GOTO 70
180 ' **** Test for key response ****
190 LOCATE 1,1:PRINT CHR$(7):IF Z$-"X"
    THEN GOSUB 400:T%-COL%:RETURN
200 IF Z$-"F" AND D1%-1 THEN D1%-0:
    RETURN ELSE IF Z$-"F" AND D1%-0
    THEN GOSUB 400:D1%-1:RETURN
210 IF Z$-"P" AND D2%-1 THEN D2%-0:
    RETURN ELSE IF Z$-"P" AND D2%-0
    THEN D2%-1:GOSUB 400:RETURN
220 IF Z$-"A" AND D3%-1 THEN D3%-0:
    RETURN ELSE IF Z$-"A" AND D3%-0
    THEN D3%-1:GOSUB 400:RETURN
```

```
230 IF Z$-"." AND COL%<(4↑(2-M))-1
    THEN COL%-COL%+1:BORDER B%(COL%):
    RETURN
240 IF Z$-"," AND COL%>0 THEN COL%-COL%-1
    :BORDER B%(COL%):RETURN
250 IF Z$-"I" THEN GOSUB 370
260 IF Z$-"C" OR Z$-"D" THEN GOSUB 420
270 IF Z$-"B" THEN GOSUB 510
280 IF Z$-"O" THEN LX%-X%:LY%-Y%:RETURN
290 IF Z$-"T" THEN GOSUB 400:MOVE LX%,LY%
    :DRAW X%,Y%,COL%:LX%-X%:LY%-Y%:RETURN
300 IF Z$-"R" THEN GOSUB 400:MOVE LX%,LY%
    :DRAW X%,Y%,COL%:RETURN
310 IF Z$-"L" THEN GOSUB 550:INPUT#2,
    " Filename":F$:IF F$-"RETURN" THEN
    GOSUB 410:RETURN ELSE MODE M:IF
    F$-"RETURN" THEN RETURN ELSE PLOT
    X%,Y%,T%:LOAD"!"+F$:GOSUB 650:GOSUB
    400:T%-TEST(X%,Y%):RETURN
```



Wandering through space

This is a lovely piece of programming from **Julian Smalley** of Nottinghamshire. It uses colour-swapping techniques to give the impression that you are seated in the cockpit of a spacecraft, watching the stars flash by while the instruments whirl.

```
33Ø PLOT 26Ø+4Ø*SIN(f),6Ø+4Ø*COS(f),15
34Ø MOVE 36Ø,5Ø:DEG
35Ø DRAW 36Ø+4Ø*SIN(f),5Ø+4Ø*COS(f),p2
36Ø PLOT 36Ø+4Ø*SIN(f),5Ø+4Ø*COS(f),15
37Ø p=p+1:IF p=15 THEN p=1
38Ø p2=p2+1:IF p2=15 THEN p2=1
39Ø NEXT:MOVE 42Ø,2Ø:DRAW 42Ø,8Ø,15
4ØØ DRAW 48Ø,8Ø,15:DRAW 48Ø,2Ø,15
41Ø DRAW 42Ø,2Ø,15:FOR zx=1 TO 3ØØ
42Ø PLOT 424+INT(RND*(54)+1),22+INT
    (RND*(56)+1),INT(RND*(14)+1)
43Ø NEXT:MOVE 5ØØ,2Ø:DRAW 5ØØ,8Ø,15
44Ø DRAW 62Ø,8Ø,15:DRAW 62Ø,2Ø,15
45Ø DRAW 5ØØ,2Ø,15:FOR p=1 TO 14
46Ø MOVE 5Ø4,5Ø
47Ø DRAW 53Ø,22+INT(RND*(56)+1),p
48Ø DRAW 56Ø,22+INT(RND*(56)+1),p
49Ø DRAW 59Ø,22+INT(RND*(56)+1),p
5ØØ DRAW 618,5Ø,p:NEXT
51Ø FOR f=1 TO 14:INK f,26:CALL &BD19
52Ø FOR d=1 TO 3Ø:NEXT:INK f,Ø
53Ø CALL &BD19:NEXT:GOTO 51Ø
```

```
32Ø IF Z$="S" THEN GOSUB 55Ø:INPUT#2,
    " Filename";F$:IF F$="RETURN" THEN
    GOSUB 41Ø:RETURN ELSE PRINT#2:PRINT#2
    ," Press SPACE to   conTinue...":WHILE
    INKEY$<>" ":WEND:PLOT X%,Y%,T%:SPEED
    WRITE 1:GOSUB 41Ø:SAVE"!"+F$,B,&CØØØ,
    &4ØØØ:RUN
33Ø IF Z$="N" THEN GOSUB 53Ø
34Ø IF Z$=CHR$(23) THEN 5Ø
35Ø RETURN
36Ø ' **** Small subroutines ****
37Ø GOSUB 55Ø
38Ø CLS#2:PRINT#2:INPUT#2," Change ink";
    I1:IF I1<Ø OR I1>26 THEN GOTO 38Ø
    ELSE PRINT#2:PRINT#2:INPUT#2," to ink";
    I2:IF I2>26 OR I2<Ø THEN GOTO 38Ø
39Ø INK I1,I2:B%(I1)=I2:BORDER B%(COL%):
    GOSUB 41Ø:RETURN
4ØØ PLOT X%,Y%,T%:OT%=T%:CALL 24559:RETURN
41Ø CLS:CALL 2455Ø:T%=OT%:RETURN
42Ø GOSUB 4ØØ:GOSUB 55Ø
43Ø CLS#2:PRINT#2:INPUT#2," Radius";R:
    IF R=Ø THEN GOSUB 41Ø:RETURN ELSE IF
    R<2 OR R>4ØØ THEN GOTO 43Ø ELSE GOSUB
    41Ø:IF Z$="C" THEN FOR A=Ø TO 36Ø
    STEP Ø.6:PLOT X%+R*COS(A),Y%+R*SIN(A),
    COL%:NEXT:RETURN
44Ø T%=COL%:PLOT X%,Y%,COL%:IF R=Ø
    THEN RETURN ELSE S=R*R
45Ø R=R-1
46Ø IF R=Ø THEN RETURN
47Ø Z=SQR(S-R*R):Z1=Z+Z:SL=X%-Z
48Ø IF SL<Ø THEN Z1=Z1+SL:SL=Ø
49Ø PLOT SL,Y%+R,COL%:DRAWR Z1,Ø,COL%:
    IF Y%-R<Ø GOTO 45Ø
5ØØ PLOT SL,Y%-R,COL%:DRAWR Z1,Ø,COL%:
    GOTO 45Ø
51Ø GOSUB 55Ø
52Ø CLS#2:PRINT#2:PRINT#2," Size=";BRUSH:
    PRINT#2:INPUT#2," Brush size";BR:IF
    BR=Ø THEN GOSUB 41Ø:RETURN ELSE IF
    BR<1 OR BR>2ØØ THEN GOTO 51Ø ELSE
    BRUSH=BR:GOSUB 41Ø:RETURN
53Ø GOSUB 55Ø
54Ø CLS#2:PRINT#2:PRINT#2," Density=";
    DENS%:PRINT#2:INPUT#2," Density",
    DEN%:IF DEN%=Ø THEN GOSUB 41Ø RETURN
    ELSE IF DEN%<2 OR DEN%>25 THEN GOTO
    54Ø ELSE DENS%=DEN%:GOSUB 41Ø:RETURN
55Ø CALL STORE:WINDOW#1,2,18,9,14:
    WINDOW#2,3,19,1Ø,15:WINDOW#3,1,2Ø,8,16:
    PAPER#1,2:PAPER#2,1:PAPER#3,Ø:CLS#3:
    CLS#1:CLS#2:PEN#2,Ø:PRINT#2:RETURN
56Ø ' **** Read in colours ****
57Ø RESTORE 58Ø:FOR N=Ø TO 15:READ B%(N):
    INK N,B%(N):NEXT:D%=4:RETURN
58Ø DATA Ø,26,2,3,4,5,6,7,8,9,1Ø,
    11,12,13,14,15
59Ø RESTORE 6ØØ:FOR N=Ø TO 15:READ B%(N):
    INK N,B%(N):NEXT:D%=2:RETURN
6ØØ DATA Ø,26,2,3,4,5,6,7,8,9,1Ø,
    11,12,13,14,15,16,17,18,19,2Ø,
    21,22,23,24,25,26
61Ø MODE 1:LOCATE 1Ø,1Ø:INPUT"Which mode
    (Ø/1)";M:IF M<Ø OR M>1 THEN 61Ø ELSE
    M=M+1:ON M GOSUB 57Ø,59Ø:M=M-1:
    BORDER 26:INK 1,26:X%=1ØØ:Y%=1ØØ:
    CC%=1:A%=X%:B%=Y%:LX%=Ø:LY%=Ø:COL%=1:
    BRUSH=2Ø:DENS%=2:DEG:RETURN
62Ø MODE 1:LOCATE 6,1Ø:INPUT"Keyboard or
    Joystick (K/J)";Q$:Q$=UPPER$(Q$):IF
    Q$<>"K" AND Q$<>"J" THEN 62Ø ELSE
    K=ASC(Q$)-74:K=K*4:RESTORE 63Ø:FOR
    N=1 TO 8:READ K%(N):NEXT:MODE M:
    RETURN
63Ø DATA 72,73,74,75,Ø,2,8,1
64Ø ' **** Read in machine-code ****
65Ø RESTORE 66Ø:FOR N=2455Ø TO 24574:
    READ A:POKE N,A:NEXT:VIEW=2455Ø:
    STORE=24559:RETURN
66Ø DATA &F3,33,ØØ,96,17,ØØ,192,&18,8,
    &F3,33,ØØ,192,17,ØØ,96,Ø,Ø,1,ØØ,64,
    &ED,&BØ,&FB,2Ø1
```



Pyramid

Adrian Sill of Doncaster sent in what was a one-liner. I split it up to make it more legible. This is an interesting routine, as it shows what is capable with the minimum of commands.

```
1Ø ' Pyramid
2Ø ' Adrian Sill
3Ø ' Amstrad Action    Jan 87
4Ø MODE 2:LOCATE 38,3
5Ø PRINT "pyramid":INK 1,6,24
6Ø SPEED INK 4,4
7Ø FOR i=1 TO 64Ø STEP 3
8Ø PLOT 32Ø,35Ø:DRAW 639-i,Ø
9Ø DRAWR Ø,399:PLOT 32Ø,1ØØ
1ØØ NEXT i
```

Shady dump

How about this offering from **Mark Gannon** of Derbyshire? It produces a 16-shade graphics screendump on your printer. Unfortunately it will work only on Mode 0 screens. More disappointing, though, is that it works only with Amstrad's DMP 2000 printers.

You may not be overawed by this. However, as Mark says: 'Where the program scores is that it interrogates each ink and assigns the varying shades according to the colours as opposed to the inks.' In other words, the program looks to see what colour is actually inside the inkpot. It certainly works well – just see the results for yourself.

Turn off the perforation skip on the printer (dipswitch 2, SW2) before using the program.

```
10 ' 16-shade screendump
20 ' Mark Gannon
30 ' Amstrad Action    Jan87
40 DEFSTR m,p-r
50 DEFINT s,l,o,i,c
60 DIM sh(15,2)
70 col=0
80 ' Installs machine code
90 MEMORY 19999
100 FOR loop=20000 TO 20017
110 READ mc:POKE loop,VAL("&"+mc)
120 NEXT loop
130 ' Unlimited wrap on printer
140 WIDTH 255
150 ' Sets paper feed to 7/216"
160 PRINT#8,CHR$(27);"3";CHR$(7);
170 ' Shades for ink
180 FOR outer=26 TO 0 STEP-1
190 FOR inner=0 TO 15
200 CALL 20000,inner,@col
210 col=VAL("&"+MID$(HEX$(col,4),1,2))
220 IF col=outer THEN READ sh(inner,0)
230 NEXT inner
240 NEXT outer
250 ' Main loop
260 FOR outer=0 TO 639 STEP 2
270 ' Sets mode to 640 CRT-GRAPHIC
280 PRINT#8,CHR$(27);"*";CHR$(4);
290 PRINT#8,CHR$(88);CHR$(2);
300 FOR inner=0 TO 399 STEP 2
310 col=TEST(outer,inner)
320 p=CHR$(sh((col),0))
330 q=CHR$(sh((col),1))
340 r=CHR$(sh((col),2))
350 PRINT#8,p;q;r;
360 NEXT inner
370 ' Prints CR/LF
380 PRINT#8,CHR$(13);CHR$(10);
390 NEXT outer
400 ' Resets printer
410 PRINT#8,CHR$(27);"@"
420 END
430 ' Instructions for ink read
440 DATA DD,6E,00,DD,66,01,DD,7E,02
450 DATA E5,CD,35,BC,E1,71,23,70,C9
460 ' Bit patterns for shading
470 DATA 000,000,000,000,008,000
480 DATA 001,001,001,004,016,066
490 DATA 008,068,034,017,017,017
500 DATA 073,018,036,037,037,037
510 DATA 085,042,085,090,090,090
520 DATA 054,109,091,110,110,110
530 DATA 119,059,093,123,111,061
540 DATA 126,126,126,127,127,127
```

Screen squash

Great listing from **Simon Solway** of Sheffield. It compresses screen data, therefore reducing the amount of memory needed to store a picture. Andconsequently it cuts loading and saving time considerably.

The program, in machine-code, contains two sections: the squash routine and the unsquash routine.

To squash a picture, make sure that the image is on screen and Himem is set to &55FF at most. Then CALL &9700. To save this data, you will have to enter the following: `SAVE"filename", B, &5600, PEEK(&5601) + 256*PEEK(&5602) - &5600`

To unsquash a picture, load the program, then the squashed data at &5600, and then CALL &97A0.

Neither routine can cope with screens that have scrolled. So before you squash or unsquash it's advisable to set the Screen Offset to zero, by entering a Mode command – do this before drawing a picture.

```
10 ' Screen squash
20 ' Simon Solway
30 ' Amstrad Action    Jan 87
40 MEMORY &96FF:FOR t=&9700 TO &97DB
50 READ a$:POKE t,VAL("&"+a$)
60 b=b+VAL("&"+a$):NEXT t
70 IF b<>18148 THEN 90
80 PRINT"DATA OK - WELL DONE":END
90 PRINT"ERROR IN DATA":STOP
100 DATA AF,11,FF,8F,06,00,12,18,10,FC
110 DATA 21,00,C0,13,7E,E5,26,00,6F,19
120 DATA 36,01,E1,7C,23,FE,00,20,F1,06
130 DATA 00,EB,7E,FE,01,20,04,23,10,F8
140 DATA C9,7D,32,8D,97,21,00,C0,7E,3C
150 DATA 32,90,97,11,05,56,7E,12,47,3A
160 DATA 90,97,B8,28,21,78,32,90,97,13
170 DATA 7C,23,FE,00,20,EC,3A,8D,97,32
180 DATA 00,56,12,13,13,AF,12,13,12,18
190 DATA 1B,18,1B,ED,53,01,56,C9,23,46
200 DATA 3A,90,97,B8,28,03,2B,18,D8,23
210 DATA 46,B8,28,03,2B,18,F5,23,01,05
220 DATA 00,D5,56,3A,90,97,BA,20,07,03
230 DATA 7C,23,FE,00,20,F2,D1,2B,E5,28
240 DATA 36,00,23,36,00,23,70,23,71,EB
250 DATA 18,AD,00,00,00,00,00,00,00,00
260 DATA 11,05,56,21,00,C0,3A,00,56,32
270 DATA AE,97,1A,FE,00,28,05,77,23,13
280 DATA 18,F6,EB,23,23,46,23,4E,78,B1
290 DATA C8,2B,2B,7E,23,23,EB,77,23,0B
300 DATA F5,78,B1,28,03,F1,18,F5,F1,2B
310 DATA 18,DF,00,00,00,00,00,00,00,00
```

► **Thinking of sending in your programming masterpiece to be considered as an *AA* type-in? See the style guide published last issue. Above all, make sure your name and address are written (human-readably) on every single item, if you want it returned.**

► **An apostrophe (') at the beginning of a Basic line has the same effect as** REM.


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BOOTING UP CP/M

Part 7

Technical editor Richard Monteiro finishes off the utility programs that came with your system disk, and moves on to such matters as Moving and Dynamic Debugging.

Back in September, Booting CP/M covered a topic called Device Assignment. Dig out that issue and briefly flick through the section as a memory-freshener. The reason for this back-tracking is that I'm about to cover the next setup option: the IOBYTE settings.

What you type must be in this form:

```
logical device, physical device
```

CP/M deals with four 'logical devices', known by the abbreviations CON: RDR: PUN: and LST:. When they were named 30 years ago computers really did use a CONsole, a punched-card ReaDeR, a tape PUNch and a LiSTing device.

The physical device can be any one of CRT: TTY: BAT: UC1: PTR: UR1: UR2: UP1: UP2: LPT: or UL1: (as described in September). The two devices must have a separator betweem them - a space, comma or even an equals sign. There are only a few valid assignments; that is, not every logical device can be assigned to a physical device and vice-versa. The valid ones are:

CON: can be TTY: CRT: BAT: or UC1:
RDR: can be TTY: PTR: UR1: or UR2:
PUN: can be TTY: PTR: UP1: or UP2:
LST: can be TTY: CRT: LPT: or UL1:

Alternate and IY register saving. Say no to this option. It's too technical. If you know how to use it, you don't need to reading this article!

Next is another yes-or-no question:

BIOS message enable/disable?. This does exactly as the question states – either turns the BIOS messages on or off, such as the familiar 'Retry, Ignore or Cancel?'.

It's useful to have the option to clear or preserve the initial command buffer. The value of this parameter determines whether the initial command buffer is cleared when a key is pressed.Assuming you've set the option to preserve the buffer, and that it has been set to run a program of your choice automatically, you have, in effect, devised a simple protection scheme for the disk.

Here are three extremely useful routines which allow a degree of control over the disk-drive motor:-

1 'Drive Motor on Delay'. This is the time CP/M allows for the disk to reach speed before reading from or writing to it. It is entered in 50ths of a second. The recommended value is 50 (that is, 1 second). Don't reduce the delay to 0 or you'll lock up your CPC.

2 'Drive Motor off Delay' is the time the drivemotor continues after a read or write. It's also measured in 50ths of a second, and defaults to 250 (5 seconds). The reason the motor spins for such ages is to avoid motor start-up delays; this occurs when two disk operations occur in quick succession.

3 'Stepping Rate' specifies the time (measured in milliseconds) for the drive head to move (step) across the disk. The recommended step rate is 12 milliseconds.

It is of course possible to enter values other than the recommended ones, but if very small numbers are entered, the drive motor may move too quickly and slip. This will cause numerous read/write errors. Larger values will cause unnecessary disk access delays.

With all these provisos, you may well wonder if it's at all possible to stray from the norm – it is. I have played long and hard with the disk operating system and have come up with a set of values that speed up operation by about 20% but have yet to cause an error message. Enter the figures 35,200 and 10 for 'New motor-on delay?', 'New motor-off delay?' and 'Stepping rate?' respectively. You should then have your CPC running in a suitably beefed-up state.

The final two options open to user control concern the configuration of Channels A and B of the Serial Interface. The following parameters can be altered on Channel A:

```
Transmit baud rate (5Ø to 192ØØ baud)
Recieve baud rate (5Ø to 192ØØ baud)
Data Bits (5,6,7 or 8)
Parity (Even, Odd or None)
Stop Bits (1,1.5 or 2)
```

The range of available baud rates is phenomenal.As well as supporting all the standard or common ones, there is virtually every other conceivable baud rate possible. (Show me an inexpensive modem that can handle 19200 bits per second!).

Channel B supports nearly all the functions of Channel A, with one slight difference; Channel B can only transmit and receive at the same baud rate.

That brings me to the end of a very long and detailed look at SETUP – there should be no reason for you to shy away from it any more.hopefully you have learnt a bit more about CP/M, and realised, if you hadn't already, how harsh it can sometimes be on the novice.

Making space

On occasions it's necessary to construct a version of CP/M which does not load into memory in the normal place. This may be because you wish to reserve some memory for other purposes – CP/M must therefore be moved lower down in memory.

The MOVCPM utility requires the size of memory to be specified and this is done in 'pages'; one page being equal to 256 bytes or 0.25k. If, for instance, you want to move CP/M 256 bytes lower in memory, the command is:

MOVCPM 178 *

A maximum possible size is 179 which would be 256*179/1024 or 44.75k.

If you immediately follow the MOVCPM command with SYSGEN *, the system tracks will be written directly to disk. Whenever you boot-up CP/M, it will then load at the lower memory address.

Debugging and things

The next few items – DUMP, LOAD and DDT – are not for the faint-hearted. If you are not into hexadecimal or machine-code, it's probably best toskip this section. I propose only to mention the files and what they can do – CP/M assembler is much to large and complex a subject to cover here – it would probably put most of you to sleep!

DUMP is first on the list. This is a program that displays the contents of a file on screen. Version 2.2 displays the contents in hexadecimal only, whereas 3.1 shows both Ascii and hex. To dump a file you normally type:

```
DUMP filename
```

One line of a typical DUMP display would be:-

```
ØØ1Ø Ø1 ØØ 3Ø 3E C9 CD 2Ø Ø1 FE ØØ C2 Ø1 1Ø etc.
```

LOAD in version 2.2 and HEXCOM in version 3.1 perform the same function and work in an identical manner. My examples will use LOAD, although substituting HEXCOM would be acceptable.

Both these programs convert a file assembled with ASM (which is dealt with later) into a COM file which can then be run independently. The command is:-

```
LOAD filename
```

Over 'ere, son, ...

Now we come to the obscure DDT. The initials stand for Dynamic Debugging Tool. There are many useful facilities to it, but unfortunately it's badly documented.

If a program is written in assembler, you have what is known as 'source' code. This must be assembled using ASM, and the result is 'object' code, which is in hex. This is all very well, but if your assembler program is bugged you'll probably have a lot of trouble reading it.

DDT allows you to load the object code (hex) and run it, alter it or display it in either hex or disassembled form – even the registers can be inspected. Once altered you can save it back as a .COM file.

To run DDT, type 'DDT' and press RETURN. DDT uses a hyphen as a prompt. It's possible to load a file you wish to alter from scratch, with the commands:

```
DDT filename.HEX
```

or

```
DDT filename.COM.
```

If a file name proceeds the DDT command then the following message appears:-

```
DDT VERS 2.2
NEXT PC
0800 0100
-
```

The number '0800' indicates the next free location in memory. The '0100' indicates the current value of the Program Counter – this is the address that the program will execute from.

If no filename is supplied then the message:

```
DDT VERS 2.2
-
```

is displayed.

Following is a full list of the commands available to you when using DDT:

A — Assemble – enter assembler code
D — Dump – display memory contents in either hex or Ascii
F — Fill – put specified byte in memory from/to address
G — Goto – execute program
H — Hex – display in hex
I — Input – input the FCB for an R command
L — List – list disassembled contents from/to
M — Move – move memory block from/to
R — Read – read file specified by I command
S — Substitute – replace contents of existing address with something else
T — Trace – execute instruction(s) outputting register contents in each case
U — Untrace – execute instruction(s) with register list after last instruction
X — Examine – alter registers

A lot of the commands can be used on their own, while others need several parameters after them. A break-down of these commands follows:

Here's a table showing how the command can be issued and what parameters can follow – there's also an example and sometimes a description.

```
D<start address>

D1200
```

The above command cause 16 lines of hex to be displayed from the selected address.

```
F<start address>,<end address>,<value>

F0200,0230,23
```

This command will fill an area of memory with a selectable value. The above example fills the memory areas from &200 to &230 with the byte &23.

```
G<start>,<break1>,<break2>

G110,340
```

The command can take any combination of the above parameters. Just typing G and RETURN causes execution from the address held in the Program Counter. G can have a single parameter after it which indicates where execution is to start from.

Break-points can be inserted – a maximum of two being allowed. Command is returned to DDT when one of these is encountered. Taking the above example, the program execution will comence from &110 with a break-point at &340.

If G0 is entered, a warm-boot is performed, allowing you to exit easily from DDT; memory contents are not altered.

```
H<first number>,<second number>

H41F,23
```

The H command allows for the addition and subtraction of two numbers. The example above causes the result of adding &41F to &23, and the result of subtracting &23 from &41F to be displayed on the screen thus: 0442 03FC.

```
I<filename>

ITEST.COM
```

Using the above, the FBC (file control block – located at &5C) now holds this information.

```
L<start address>,<end address>

L100,200
```

This causes a disassembly to be shown on screen; L can only be followed by the start address parameter, and only 12 lines are disassembled.

```
M<start address>,<end address>,<new address>

M112F,2300,4000
```

From the above; the data between &112F and &2300 is moved to memory location &4000.

```
R<offset>

R200
```

Issuing an R command reads the file, whose name has been put into the FCB with the I command, into memory. It is possible to load the file in at an address greater than &100, by supplying R with a parameter. The above example shows that the file will be loaded in at &300; &100 + &200.

```
S<start address>

S167
```

This command allows memory to be edited. Taking the example given, the value currently at location &167 is displayed. If you type a number in, this replaces the old value; typing a full stop (.) returns control to DDT.

```
Tn
```

This executes a single instruction, at the location given by the current value of the program counter – the register contents are displayed once the instruction has been obeyed.

If a figure, say 12, is placed after the T, then 12 instructions will be carried out. The register contents is displayed after the execution of each instruction.

```
X
```

Typing this command shows the contents of various flags and registers. There are five flags which can either have a one or zero (set or unset). Following is a list of the flags and their meanings:

Flags	Registers
C – carry	A – accumulator
Z – zero	B – BC pair
M – minus	D – DE pair
E – even parity	H – HL pair
I – inter-digit carry flag	S – stack pointer
	P – program counter

This month's Booting CP/M may have been more on the technical side, but I'm sure it will be of interest to those who really want to get to the guts of CP/M. Next month I'll have a look at ASM.

 on me head.

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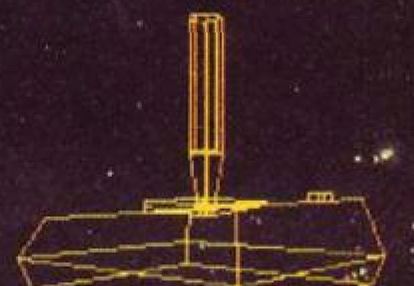
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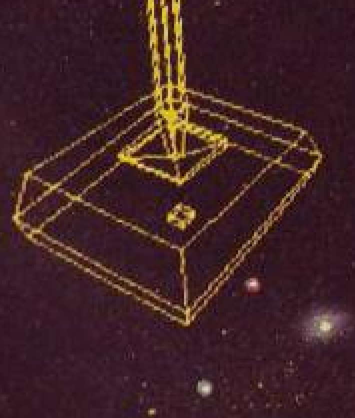


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Absolute Beginners

Andy Wilton's crash course for Basic novices: how simple routines build powerful programs

The programs we've typed in over the months in *AB* have, among other things, done a great deal of square-drawing. Well, we've still got a few different things to do with squares before we've finished with them. Type this in – it should look familiar if you've been following the series closely:

```
200 MOVE east,north
210 DRAW east+size,north,1
220 DRAW east+size,north+size,1
230 DRAW east,north+size,1
240 DRAW east,north,1
```

Notice the way the variable names are words, chosen to describe what variables are used for: 'north' is the distance we want the square to be above the bottom of the screen and 'east' the distance in from the screen's left-hand edge, while 'size' is the length of side of the square. Using meaningful words as variable names helps make your programs easy to read and understand.

As it stands, this program isn't any use. We haven't told Arnold what values he should give to 'east', 'north' and 'size' so he can't really do anything. We could set these values using a simple assignment, or we could put a FOR-NEXT loop around the lines and make them draw a whole load of squares.

Suppose we want to draw several squares, but in a particular pattern. If the pattern is regular – a straight line, say, or a chessboard – then we can use a FOR-NEXT loop or two, but in this case it isn't. I want our program to form a capital letter A in squares, and there's no simple way to do that with FOR and NEXT.

Of course you could do the whole thing 'longhand' (the Armstrong method, someone calls it) – write out five lines of program to draw the first square, then another five to draw the second and so on until you've formed the 'A'. This is going to take a long time to type in, and it'll be a dull task too.

What you really want to do is use those five lines we've already typed in, over and over again, but to draw squares in different places. Of course, that's exactly what a loop does. Problem is, a loop won't give us enough control over where the squares go.

There is a way in Basic to use the same lines over and over again, without putting them in a loop. It involves two new commands which we'll look at in a little while – these are GOSUB and RETURN – and a third, END, which we'll use right away.

First we'll get the program running by assigning values to its variables. Type in this new line 190, and run the resulting program:

```
190 east=200:north=100:size=50:CLS
```

As usual, we have a square drawn on the screen. Now add this extra line and try again:

```
235 END
```

STOP HERE

You'll now see that the fourth line of the square doesn't get drawn. That's because the END command in line 235 told Arnold that the program finished there. When Arnold comes across END he'll ignore any further lines, even further commands on the same line, and go back to you for instructions as if he'd reached the end of the program.

Delete lines 190 and 235, and type in the following lines:

```
100 east=250:north=100:size=50
110 CLS:GOSUB 200
120 PRINT "What a surprise - a square!"
190 END
250 RETURN
260 PRINT "See what RETURN does?"
```

When you run this, it'll draw a square and print a message. List the program and look at where the END command comes. Now look for the lines that draw the square. Confused?

When Arnold reaches line 190, he'll stop carrying out the program commands and put up that 'Ready' prompt. Since the square-drawing lines don't start until line 200 he won't ever reach them, will he? But if he doesn't, how come the program draws a square?

The answer lies in that GOSUB command in line 110. It's this command that makes Arnold draw the square. You can prove this easily – just change line 110 to read:

```
110 CLS
```

and run the program again. No square this time, right?

We know what the GOSUB command does now – but why? Well, GOSUB 200 means 'go and start obeying the program commands from line 200 onwards', and those commands are the ones that draw the square. That's not the whole story, though.

Arnold may go off to line 200 and start obeying the commands there, but that's not all that GOSUB 200 tells hime to do. It also tells him to remember the line he came from – the line he found the GOSUB in, in this case line 110. He needs to remember this because he's going back there as soon as he's finished with the square-drawing. That's what the RETURN in line 250 tells him.

Let's look closely at how Arnold obeys the program commands. First of all he obeys the assignment commands in line 100, and then the CLS command at the start of line 110. That's perfectly normal; he's just performing commands in the order he always does. When he gets to the GOSUB, however, he knows he has to go off and obey some commands elsewhere before he can can on with lines 120 onwards. The operand of GOSUB tells him which line these commands start at – 200, in this case.

Arnold starts obeying the square-drawing comands from line 200 onwards, because the GOSUB's operand tells him to start there. But how does he know when to go back and work through lines 120 and so on? Well, the RETURN in line 250 marks the end of the out-of-sequence lines, so after line 240 Arnold hops back to the first command after the GOSUB which sent him off. In this case that's the PRINT command in line 120. Once he's printed the message as instructed, he runs slap into the END in line 190 and stops performing.

Notice that the PRINT in line 260 never gets carried out because the RETURN sends Arnold back before he gets that far.

A FEW TERMS

The lines that the GOSUB makes Arnold perform out of sequence – lines 200 to 250 in our program – form what's known as a *subroutine* . We say that the GOSUB command *calls* the subroutine – that is, tells Arnold to obey the commands in the subroutine lines before carrying on with the main program. Subroutines normally go after the main program, and are separated from it by an END command – like the one in line 190.

This END command is important. Without it, Arnold may try performing subroutine lines without being told to do so by a GOSUB command. Try deleting line 190 and running the program without it – don't forget to put the GOSUB command back into line 110 if you haven't already. You should get an 'Unexpected RETURN' error message when Arnold performs line 250 for the second time. He can't RETURN unless he's reached line 250 from a GOSUB, and the second time round he hasn't. This kind of error is called *falling through* .

THE LETTER 'A'

Put line 190 back into the program, and type in these new lines 100-185:

```
100 east=100:north=50:size=20:CLS
105 'Draws left side
110 GOSUB 200
115 north=north+size:GOSUB 200
120 north=north+size:GOSUB 200
125 'Left slope
130 north=north+size:east=east+size:GOSUB 200
135 north=north+size:east=east+size:GOSUB 200
140 'Right slope
145 north=north-size:east=east+size:GOSUB 200
150 north=north-size:east=east+size:GOSUB 200
155 'Right side
160 north=north-size:GOSUB 200
165 north=north-size:GOSUB 200
170 'Cross-piece
175 north=north+size:east=east-size:GOSUB 200
180 east=east-size:GOSUB 200
185 east=east-size:GOSUB 200
```

The lines starting with apostrophes are *comment lines* . They're there so that people reading the listing can work out which bits of the program do what. Arnold just ignores them – they're messages for human beings, not computers. Whenever you're writing a big program you should use comment lines. (And anything you save to cassette or disk should have a few comment lines added to its beginning, so that six months later you can remember what the program was for.) Without comment lines, you'll find that by the time you've got to the end you can't remember how the beginning works.

You can type the apostrophe by holding down Shift and hitting the 7 key.

When you run the program you'll see it draws 12 squares in the shape of the letter 'A'. The main program calls the square-drawing subroutine 12 times to to do this. You could use more squares to make a more detailed 'A' – there's no limit to how many times you can call a subroutine.

SUBROUTINES THAT CALL SUBROUTINES

Just as FOR-NEXT or WHILE-WEND loops can perfectly well contain looping commands, so subroutines can contain GOSUBS. Save the current program to tape or disk (with comments!) and type this one in:

```
10 PRINT "Line 10"
20 GOSUB 50
30 PRINT "Line 30"
40 END
50 PRINT "Line 50"
60 GOSUB 90
70 PRINT "Line 70"
80 RETURN
90 PRINT "Line 90"
100 RETURN
```

When you run it you'll get a whole load of 'line such-and-such' messages which should make clear how this subroutine-calling-subroutine business works. Notice in particular what happens when Arnold gets to line 100.

The GOSUB commands in lines 20 and 60 both tell Arnold to remember his position at that point, so that he can RETURN there at the end of the subroutine. The question is, which GOSUB does he go back to when he reaches a RETURN command for the first time in line 100?

As you'll see if you run the program, Arnold actually goes back to line 60 rather than line 20. He does go back to line 20 eventually, but only once he's reached the RETURN in line 80. The rule is this: the RETURN at the end of a subroutine sends Arnold back to the GOSUB that called that particular subroutine.

The subroutine starting at line 50 is called from line 20 so that's where its RETURN – the line 80 one – sends Arnold back to. The line 90 subroutine on the other hand is called from line 60, so its RETURN – the one in line 100 – sends Arnold back there.

Reload the 'A'-drawing program you saved a few minutes ago, and list it. Notice how line 250 has to RETURN Arnold to a different GOSUB each of 12 times. It can do this because Arnold remembers the position of each GOSUB as he performs it, so he always finds his way back to the right one.

RETURN isn't paired with a particular GOSUB the way FOR and NEXT or WHILE and WEND are joined – if it's just been called by the GOSUB in line 120, the subroutine sends Arnold back to line 120 when it's finished. The same goes for any other GOSUB that calls the subroutine – if Arnold just came from line 160, that's where the RETURN will send him back to.

Now for a quick switch-around. If you type in these lines you'll turn that 'A'-drawing program into a subroutine for a larger program:

```
10 size=40:CLS
20 north=50:east=100:GOSUB 105
30 north=50:east=340:GOSUB 105
100 END
190 RETURN
```

This should produce an important message, as well as demonstrating how easily simple programs can be turned into subroutines for larger, more powerful programs.

ONE LAST SUBROUTINE TRICK

We've already seen how programs can be built out of subroutines within subroutines, gradually adding outer layers to the program. What started as a square-drawing program became a subroutine in an 'A'-drawing program. This then became an 'A'-drawing subroutine in an 'AA'-drawing program. By repeating this process on programs, you can produce complex and really useful Basic masterpieces.

Once you've done that, you can completely change the effect of these vast programs by making tiny changes to the innermost subroutines. Delete line 230 and edit line 220 to read as follows:

```
220 DRAW east + size/2, north + size,1
```

Now the line-200 subroutine draws triangles rather than squares. This means that the line-105 subroutine builds 'A's out of triangles, and so the whole program produces a triangular, rather than a square, 'AA' message.

SUMMARY

The **GOSUB** command sends Arnold off to obey a group of program commands elsewhere in the program, and come back afterwards. GOSUB takes one operand, which is the number of the line it's sending Arnold off to.

The extra, out-of-sequence lines which GOSUB make Arnold obey form a *subroutine*. The end of a routine is marked by the command **RETURN**. This tells Arnold to go back to the GOSUB command which *called* the subroutine – sent him to it, in other words.

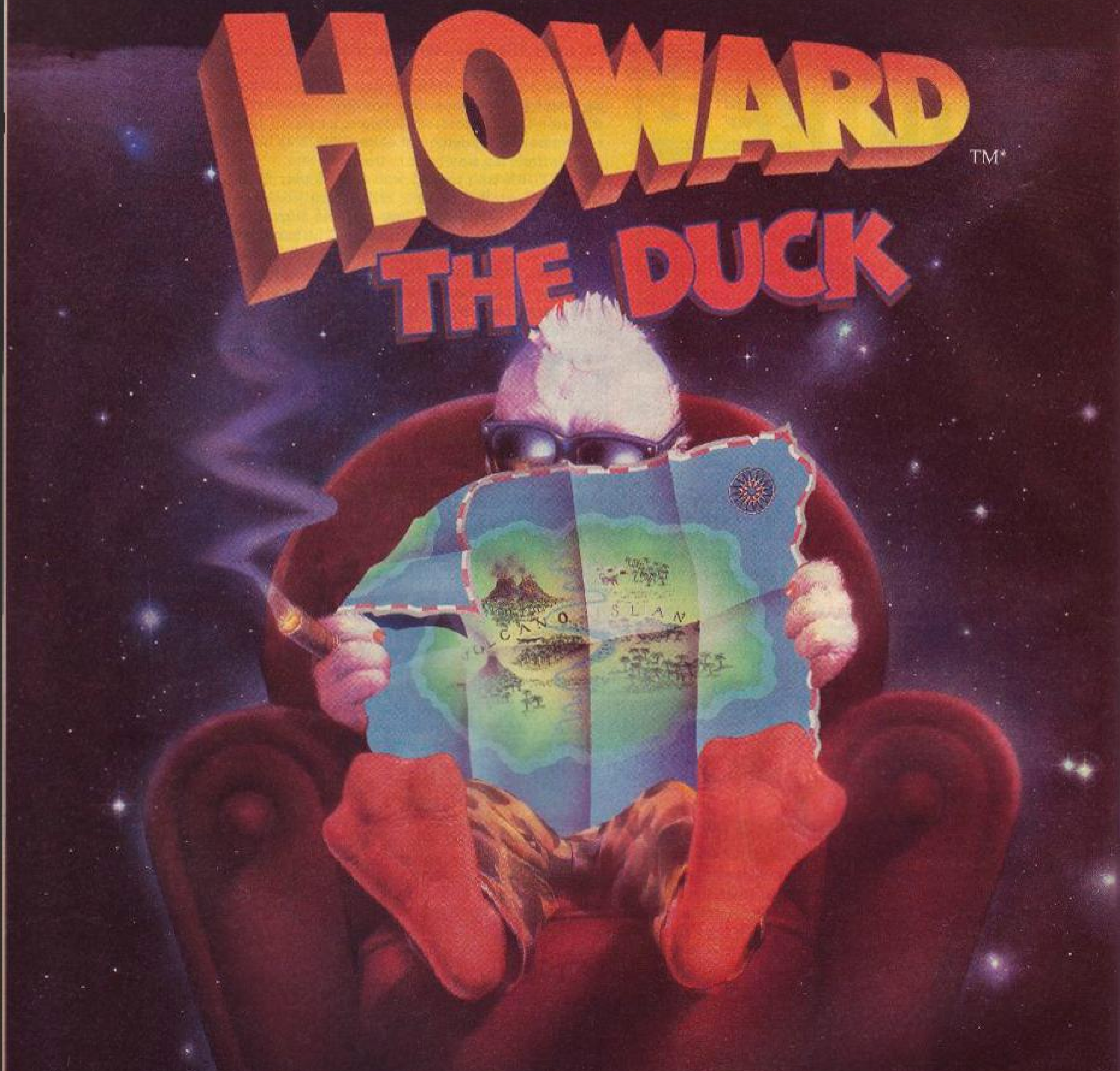
Subroutines should be performed by Arnold only when he's been told to by a GOSUB. If he meets the RETURN command when he hasn't been sent to the subroutine by a GOSUB, he puts up the message 'Unexpected RETURN' and stops.

To avoid this, we put subroutines after the main program and separate them from it with an **END** command. END tells Arnold to stop performing program lines and put up the 'Ready' prompt. That way he won't try performing subroutines as if they were part of the main program.

STRINGS

Next month's instalment of *Absolute Beginners* will conclude the series, by unravelling what Basic calls *strings*.

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ELECTRONIC COAT-HANGERS

Model Universe
Arnor (01-684 8009)
£15.95 tape, £19.95 disk

3D animated creations are fun and educational, but what use?

Recently there has been a spate of drawing and design programs for the Arnold. Most are artistic paintboxes, providing an electronic canvas to doodle on. Arnor has a reputation for the ease and power of its products – like *Maxam*. Does this latest offering have anything novel as well?

Yes, it certainly does. *Model Universe* is an introduction to three-dimensional graphics. It enables you to create 3D objects and to animate them in mode 1. I can't think of another program that does anything like this.

Included is a pretty good demonstration program that enables you to see the sort of standard of the system. Although the blurb claims that 'From the technology of mainframe computers, *Model Universe* can simulate three-dimensional...' etc etc, this is untrue. Mainframes do not use microprocessors. However, from the point of view of the average enthusiast, the ability of *Model Universe* is really very good.

The program can accept input from the AMX mouse, a joystick or keyboard to move the various cursors and pointers which control exactly what happens on screen. Nearly everything the program does is menu-controlled – typing in data from the keyboard is kept to a minimum.

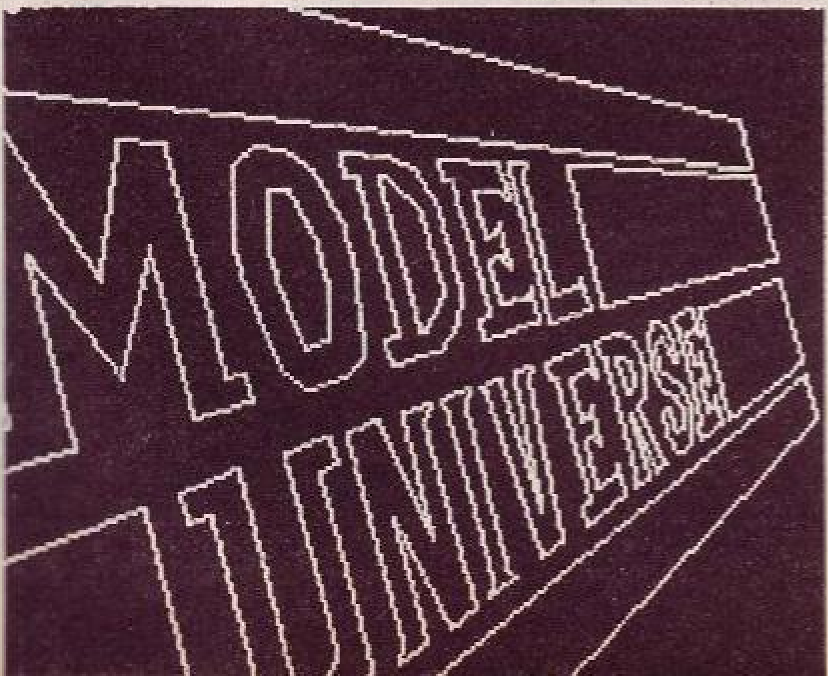
After making your choice of data entry, the main menu gives access to the design and display menus. First of all a design has to be created. This means drawing the outline of an object, using edges and vertices. (It's best to do a sketch of what you want before attempting to recreate it on Arnold.)

A vertex is a point where two or more edges meet. A cube has twelve edges and eight vertices. This may sound a bit complicated, but it's just 'joining the dots' in 3D. If you make a mistake, simply edit backwards to remove it. Tubes and prisms are accomplished by drawing one face and 'extending' away from it.

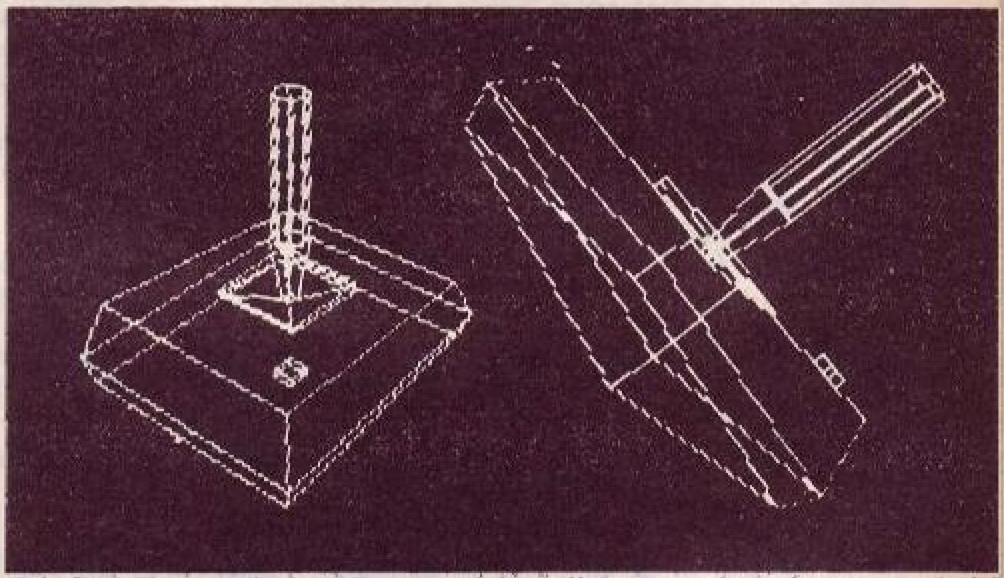
The program will happily accept any old scrawl; nobody will get any brilliant results at the first attempt. After a while you suss out what is going on – the manual helps a lot here. One of the welcome features is that the main cursor (a small arrow) is 'intelligent'. It starts moving slowly and accelerates the longer you keep pressing the button.

Up to 255 edges and vertices can be used for each design. This should be adequate for most needs – a circle requires about 30 of them. Some complex effects are possible, but if you want to see something like the Eiffel tower, this just can't do it.

Once you have drawn your masterpiece, select the display menu. This enables you to rotate and translate around a viewpoint. The options are static mode, in which the object is moved around the midpoint of the screen, the origin; dynamic mode, which rotates the object around its own axis; and viewpoint mode, which moves your view around the object, as if you were taking a stroll around it.



Bear in mind that a complicated object will take longer to display than a simple one. Also, all of the objects are 'wire frame', as if made of coat-hangers. If you are not happy with your object, you can easily toggle back to the design menu and alter it.



The main menu also allows you to save and load designs, to change the default foreground, background and border colours and to destroy the design currently in memory. Only one object can be designed and animated at a time.

All the vertex and edge data can be saved as Basic arrays, to use in your own programs. An example of this is supplied in the manual. Designs can be dumped to a printer or plotter. The plotting routine supports only the Tandy CGP-115 or MCP40, so if your plotter is not compatible with those, you will have to write your own routine.

The packaging is a plastic box with no actual disc case. This is very annoying, because either you have to keep opening and closing the box or (like most people) you have a collection of disks exposed to dust, grit and coffee. Large boxes may look nice but they are not as practical as proper cases.

Only a provisional manual was supplied for review but this, I have been assured, has exactly the same contents as the real manual. These chapters were laid out in a very logical manner, taking you through the various stages step by step.

Also included in the price is a free game called *Gatecrasher*, which up to now was only available from Amsoft at the full price. It's a one-screen game with quite good animation and graphics, but it's not really up to much. Mind you, it's better than a poke in the eye.

The only real drawback to the whole package is the price. It's a good idea, it's easy to use and it's educational. But £16 really is a bit steep for a product that only introduces you to 3D graphics.

PM

GOOD NEWS	BAD NEWS
► Very educational. ► User-friendly, not finicky about input. ► Good manual.	► Pricey. ► Not exactly very useful.

Ambidextrous Arnold

Call up a handy notepad or phonebook in mid-job ... and other CP/M utilities

Write Hand Man
Hisoft (0525-71 8181), £29.95 disk only

When you're in the middle of using a wordprocessor and you need to look up a phone number, you can either hunt for your directory or maybe exit from the program and search a database. It would be nice to have trivia constantly available. This is what *WHM* does.

WHM, which runs best under CP/M Plus but also under CP/M 2.2, is installed on your working disk (preferably on your second disk if you have two drives) and is switched on by the command WHMT ON. *WHM* is loaded into a high memory address, and waits until you press Control with ']'. When you do – say from inside another program – *WHM* prints a little menu in the screen corner. When you finish, the screen is restored to what it was before.

Or at least, nearly what it was. Occasionally the screen may be slightly corrupted. It is not a serious problem, but it happens. It shouldn't make much difference to your programs.

These are the utilities *WHM* supplies:

- Notepad – a window for notes. If you need more space *WHM* will add another page to the notebook. This is saved to disk after use.
- Phonebook looks similar, but each page covers A-B, C-D etc. If you have a Hayes modem, numbers can be sent to it. A larger phonebook is available, with each letter having four pages.
- Two-week diary – When the week is over, bring down the next week and clear week two at the press of a button.
- Calendar shows the layout of months, days and dates from 1978 up to 2000. In CP/M Plus, you can update the system clock from here, rather than fiddling with the DATE program.
- Dir simply gives a disk directory.
- View lets you examine an Ascii file. No editing is allowed but this option is better than using TYPE.
- Calculator can add, subtract, multiply and divide up to 14 figure numbers.
- Keys does key macroing (in CP/M Plus). This is a useful facility to have while inside a program – repetitive strings can be edited to a simple keypress.

More applications can be invoked with the Other command. The manual gives a page over to this, but unless you know what you're doing, writing under CP/M is not easy.

An excellent CP/M tool.

PN

GOOD NEWS	BAD NEWS
► Manual is detailed. ► Routines supplied are easy to use and useful. ► Other routines are easily added to your collection. (Public-domain, perhaps.)	► It is expensive. But justified!

Not the 9 o'clock news on the monitor!

Black box lets your monitor tune in to broadcast television

Screenvision
Screens (09274-20664), £69.95



Ever fancied watching *Eastenders* through your Amstrad monitor? Now thanks to some technical wizadry from Screens this is possible. A black box – and a large wallet – is all you need to convert your monitor into a television.

Screenvision is an 'off-air TV tuner' that can connect to either the Amstrad colour or mono video monitor. It comes as a fairly substantial box with controls for brightness, colour, contrast and volume. Other features are a composite video (BNC) socket, phono socket and linear RGB din connector. Eight channels can be selected at a touch, once tuned using a tiny tool provided.

Connecting to your monitor couldn't be easier. Full instructions leave no doubt about any of its function. The lead coming from the Amstrad monitor plugs into the six-pin din plug at the back of the Screenvision.

If you switch on now, it is unlikely that you will receive a picture without an aerial. Like an ordinary TV, an external aerial is needed unless ideal local conditions let you get away with a set-top loop.

A colour picture will be produced only if your monitor is colour, of course. Green screens remain shades of green, I'm afraid.

The picture quality is passable. The colours are all rather anaemic – at £70 it makes this rather an expensive TV tuner. Add to that the cost of the monitor (£100 for mono), and you have a television with relatively poor picture quality.

It's probably best to buy yourself a television rather than go through all this rigamarole. At least you can be assured of decent images – not to mention peace in the house when *Eastenders* and the Mastergame are wanted at the same time.

RpM

GOOD NEWS	BAD NEWS
► Lets your monitor receive television. ► Easy to set up and use. ► Eight selectable channels.	► Picture quality not perfect. ► Expensive for what it does. ► Needs a very powerful aerial; otherwise reception is abominable.

 to all evil.

Create a scene

Give Arnold the capability to design a landscape



The Landscape Utility
Brian James Software (0224–63 9070), £19 tape, £22 disk

Have you ever wished your Amstrad could create scenic landscapes automatically? Well, here is the answer. Landscape after landscape, based on the magnificent scenery of Scotland, will appear before your eyes. *The Landscape Utility* will nevercreate two identical scenes. Never? Well, hardly ever: the chances are 10^9-to-1 against it.

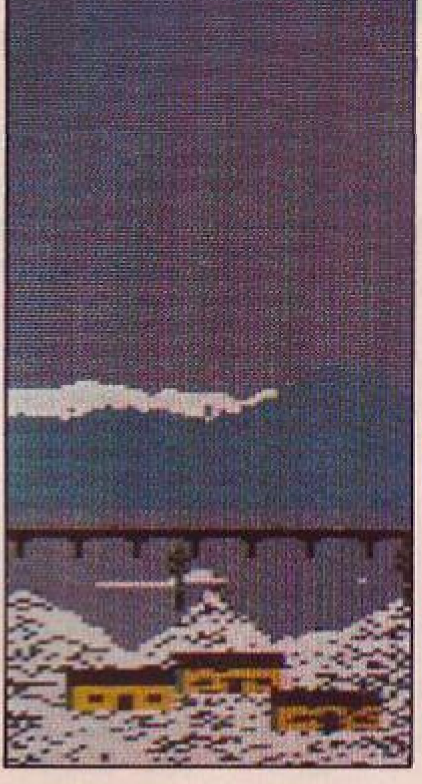
Well over 1,000,000,000 different pictures are possible. This is due to the program's ability to produce designs 'spontaneously' by making extensive use of probability functions. The program draws these pictures using the multi-coloured mode (Mode 0). As many as 16 shades show at any time.

Many of the scenes include mountains or hills of varying shapes and sizes. And where there are mountains, there are very often lakes. Often the sky is reflected into these lakes, giving very realistic results.

The Scottish Highlands would not be the Highlands without castles. These add themselves to the heather-decked landscapes with no problem, although their turrets and towers all seem to come from the same architect.

Other bonnie features include clouds, snow, sun or moon, trees and islands. All add to the charm of the scenes produced.





Before the program starts creating, you are given the option of saving the final scene to disk or cassette. This avoids messages appearing later on the screen like a hoarding ruining the landscape. When a design has been completed the program waits for you to press a key. At this point you can file, or you can alter the colouring on the screen, producing odd effects and some very alien-looking landscapes.

Another possibility is a 'slide-show', whichwill just keep churning out picture after picture until you either violently thump the computer or whisk yourself off to the nearest *natural* beauty spot to refresh your videoed eyes.

The computer makes what seems like intelligent choices for colour combinations, following mathematical rules of probability. A brightly lit sky will not have purple snow falling from it. Other such rules must be obeyed, such as gravitation, perspective and light.

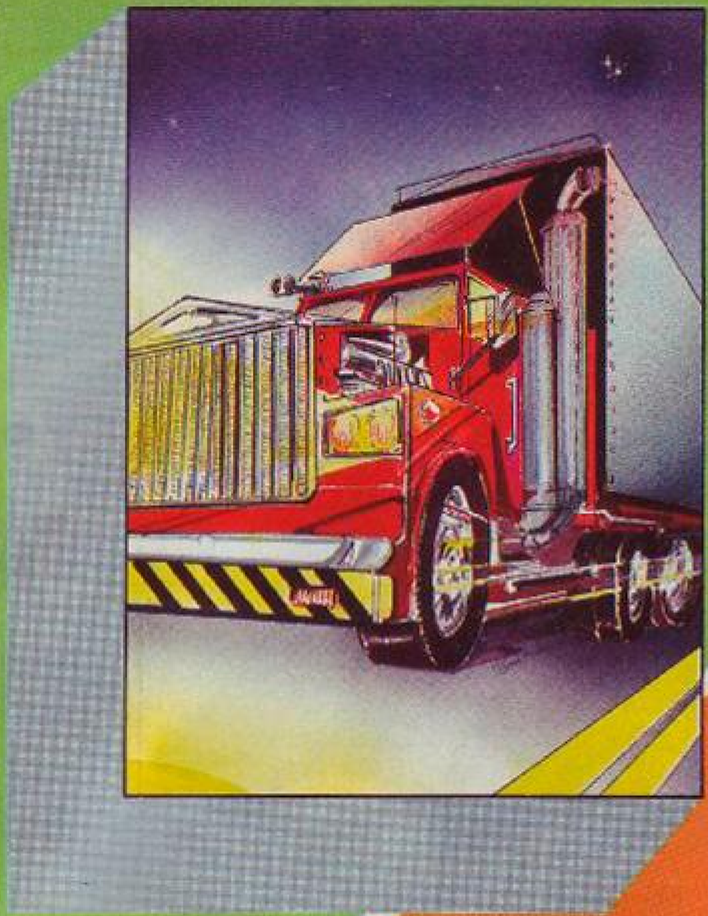
It is a pity that the user could not have contributed more to the shape of the landscape. For example, the ability to define where on the picture a castle or lake would appear would not have gone amiss.

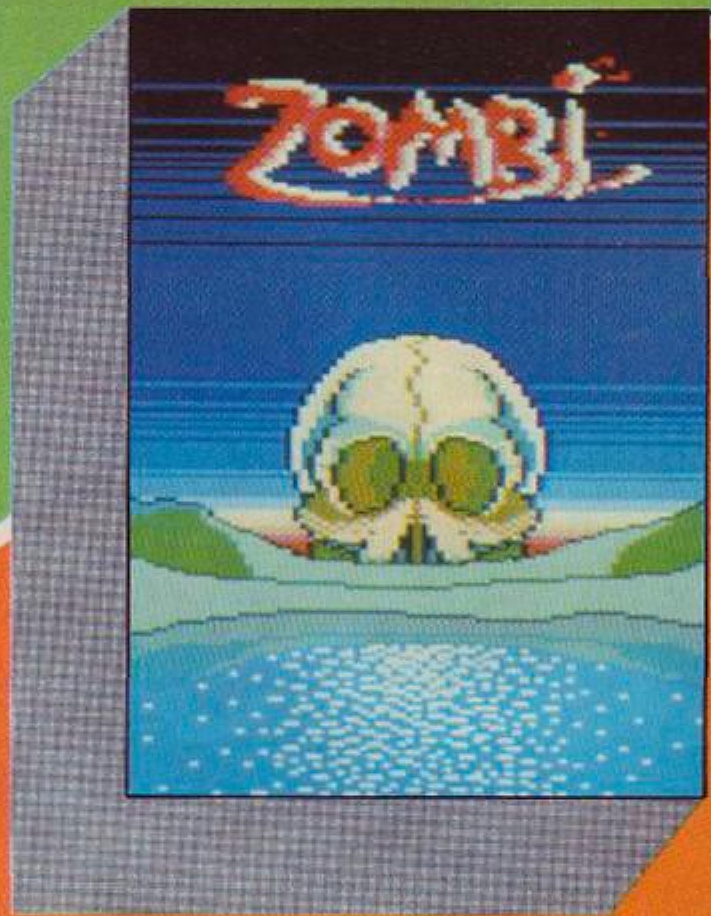


Initially all the scenes are lovely to look at, but what then? Sure, you can save them to disc or tape and then modify them somewhat with *Art Studio* or one of the many other art packages. It may even be possible to include some images within an adventure program.

However, I'm certain that as a utility it is of very limited use. Perhaps you could dump every picture to your printer and then wallpaper the room. Now there's a thought!

GOOD NEWS	BAD NEWS
► Countless lovely landscapes. ► Ability to save pictures. ► Saves you a trip to Scotland.	► Of limited use. ► Price is not wee. ► Not really a utility, for you can't control the image created. ► Better to go to Scotland after all.





ASPHALT



ZOMBI

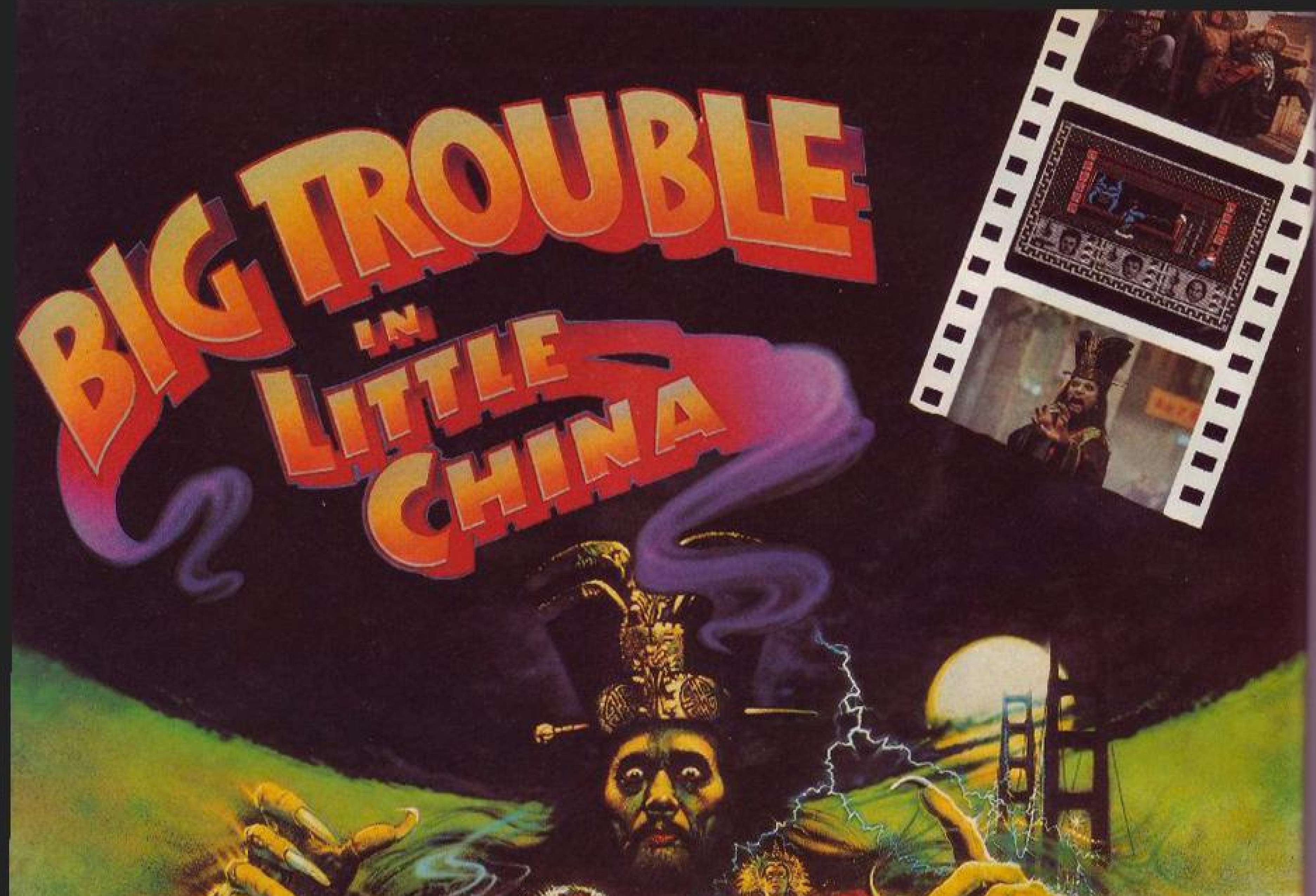


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Kwah!

Melbourne House, £8.95 cass

Avid readers of this column will recall that *Redhawk* from Melbourne House received rather less than a warm welcome from the man with the rod and staff. This game used a combination of text entry and graphics in an attempt to present a 'computer comic', where pictures and captions scrolled across the screen to accompany your inputs. 'Twas naff. 'Nuff said.

But now the intrepid lads from Melbourne Mansion have done it again, producing a similar-format program that claims to raise this art form to dizzy new heights. Have they succeeded? Or should they stick to endless replays of the *Hobbit*?

Well, fellow Pilgs, it does look as if they're making some headway here. The fact is that what made *Redhawk* so appalling (and I stick by my review of it, though others thought it was the best thing since sliced pitta bread) was the slow graphics and the really rather weedy plot, combined with illogical puzzles and an atrocious parser.

Weeeel... *Kwah!* goes a lot further in some respects. First, the plot. Instead of having to apprehend lots of rather unimpressive thugs and super-villains, in *Kwah!* you have a clearly defined objective which is easy to grasp, though very difficult to accomplish. Bring the infamous Doctor Lee to justice and, in the process, perhaps find out a little more about yourself.

The next thing I liked about *Kwah!* was the game layout. *Redhawk* had a whole series of rather loosely linked locations which didn't have me on tenterhooks and seemed, in some instances, to be rather illogically connected. *Kwah!* takes place in a nice easy-to-map scenario (Doctor Lee's Rest Home for Maniacs – or whatever he calls it) and you don't have to fly about the place to get from one place to the next.

Finally, the graphics have improved somewhat – they draw quicker and are better designed. In a game that claims to borrow from the world of comics, that's obviously important.

So what gives? Well, those of you who missed *Redhawk* should no that in this series of programs (*Kwah!* is number 2) you get a screen boasting three picture windows across the top half of the display. You enter text in a window beneath these, and as you do so your commands (if understood) are then protrayed graphically in the windows as one picture is drawn in the right-hand window, then shifted to the left to make room for the next one in the series. Just like a comic, but with yours truly writing most of the story-line. It's a great idea and *Kwah!* comes a lot closer than *Redhawk* to making it work well.

The hero of the program, Kevin Oliver, is a mutated freak who can turn into superhero Redhawk simply by saying Kwah! In this guise he can get the better of just about anyone, but his energy is limited and after a while you find yourself controlling good ol' Kevin again. Each character has a different inventory and changing from one character to another is a vital part of solving most of the puzzles in the game.

In fact, it was the puzzles that I liked most about *Kwah!* They were a darn slight better than the ones in *Redhawk*, and the authors seemed to have done a bit more thinking about the possibilities of having a split-personality hero. The other characters in the game are also more interesting – and some of them (particularly one Rik, who follows you everywhere if asked) are really quite loony. Interaction with the characters is of course essential to get anywhere in the game.

The main weakness with the program is the parser. It's pretty limited and really doesn't have much of a vocabulary to draw on. Perhaps there's a problem with fitting all those pictures in alongside the vocabulary, text, and so on. If so, I reckon it's worth the authors' while taking rather more time over their compression techniques, because with just a fraction more speed and a better parser this system could really be quite attractive.

I still don't think I'd go out and buy *Kwah!* because the Pilg is more of a traditional adventurer – but if you like the comic-book idea and fancy life as a super-hero then you can be sure that this game represents a far better deal than its predecessor – and if things were polished up just a mite bit more then we might see something very interesting indeed.

The Archers

Mosaic/Level 9, £9.95 cass, (£14.95 disk for 6128 only)

Ooh-arh, pod off, you gurt qwaddle.

If approximately 90% of that first sentence means anything to you at all, then there's a chance you may feel at home with this latest multi-choice game from Level 9 and Mosaic.

I call it a multi-choice game because it isn't really an



adventure. It's in the same mould as *Adrian Mole* from the same stable and has the same limitations. Text scrolls up the screen, pausing every now and then for you to select one of three plot options, whereupon the story rolls on. In between times, typically crude Level 9 graphics draw on the top half of the display.

In fact *The Archers* is rather better than *A Mole*. First, there appears to be rather more substance to the game. You control the plot decisions for four characters, and each character is a loads separately – giving you in effect four mini-games in one package.

Secondly, the aim of the game strikes me as rather more interesting. You have to keep the Radio 4 bosses happy with your choice of plot developments, and increase the number of listeners. You can pass from one section of the game to the next only if you succeed in raising the number of listeners by one million in each section.

This is pretty easy when you start, but once I'd reached about 3.5 million listeners and was dictating the plot for brainless femme-fatale Elizabeth Archer, I found it difficult to progress. When it came to audience figures, I just couldn't make out which was more attractive – cleaning out the pigsties or helping with the sheep. Going out to supper with Nigel Pargetter or pouring champagne over Tim's head? Joining Bruce Bruno's fitness club or attending ballet classes?

Yes, 'tis on such trivial questions that the fate of national radio programs depends. As far as the computer program goes, I reckon there seemed to be marginally more logic in the relationship between your choices and the plot developments in the *The Archers* than there was in *A Mole*.

On the other hand, I thought the text in *A Mole* was rather better written. I don't listen to *The Archers* much, but the computer program didn't strike me as being quite as true to the original as its predecessor, where Pete Austin of Level 9 proved beyond doubt tht he is either 13.75 years old and spotty, or else a very gifted mimic of other writers.

Is a game like this, where you just enter 1, 2 or 3 to select a course of events, and which after a few hours of playing will have revealed a large percentage of what it has to offer, worth £10? That is the question, fellow pilgs. Gurt snogg ooh-arrrh, says I – which means yes, if either you're an avid Archers fan or else someone gives you the game for Christmas.

Bugsy

CRL/St Brides, £7.95 cass

I'm not sure about these ladies up at St Brides. First they start off with a mystery adventure, then they try to produce a fairy tale followed by a parody of *Colossal Cave*. Now they've come up with a story about a blue rabbit that attempts to take over the Chicago Mobs and become Public Enemy Number 1.



You start off penniless and must work your way up by enlisting other hoods who will support you in your bid for power. This, and most other developments in the game, depends on your TALKing to them in the right way. Here St Brides has used a clever menu system that is booted up each time you enter TALK TO (someone) and gives you various options including Threaten, Bribe, Sweet-Talk, Greet and so on. Choosing the wrong option can often lead to rabbit stew, so a good deal of experimenting needs to be done.

This part of the game is really very good. A sweet-talking blue rabbit can, in conversation with a lady Italian gunsmith, come up with some quite cute lines. The girls at St Brides obviously have a refined sense of humour.

Some of the puzzles in the game are very tricky indeed. In fact that's a feature that seems to belong to all St Brides games – their first game *The Secret of St Brides* was – in my opinion – extremely tough. Robbing banks, catching trains, and evading the law are all part of the daily life of a rabbit in *Bugsy*, but I found getting the cash for a train ticket difficult enough – and I certainly never made it to Al Capone status.

All in all this is a refreshingly amusing little game. Like most adventures these days I think it's a bit over-priced, but it will definitely raise a few laughs and shows that the *Quill* can still provide a vehicle for enterprising adventure writers.

On the other hand, it also makes me wonder what St Brides molls could do if they employed a proper programmer to produce their own adventure system. Then, I suspect, we'd see something really special. They obviously have talent for writing and for devising puzzles, so it's a pity that that talent doesn't have a better framework through which to express itself.

Twice Shy

Mosaic/RamJam, £9.95 cass

What with *The Archers, Adrian Mole,* and now this game based on a Dick Francis novel, Mosaic is showing itself to be quite astute in the adventure game/licensing market. RamJam, on the other hand, has produced a couple of excellent games itself – in particular *Valkyrie 17*, which was one of the Pilg's favourite adventures when it first came out back in the dark ages.

I therefore had high hopes of this combination of talents. On loading the game, the hopes seem to be justified to some extent. First, the screen display is mighty impressive. A neat little text window for location descriptions is bordered by very attractive small-scale graphics and, to its left, a pretty little picture of your current location.

Your inputs are entered below in the usual way, and the story concerns one Jonathan Derry who suddenly attracts the attention of a group of very nasty characters. It seems they're interested in a set of cassette tapes that you (as Derry) acquire during the game.

The worst thing about this program is the parser. Frankly, Pilgs, it's pretty manky. First there's a lack of vocabulary, so that although the location descriptions mention various tempting items there's nothing you can do with them.

For example, any adventurer worth his or her salt who encounters a bed, which on examination proves to be unmade, will immediately attempt to make it. You can't. In the bathroom of Derry's house you find a bath which – again on examination – has not been emptied. But thou canst not empty it, o Pilg.

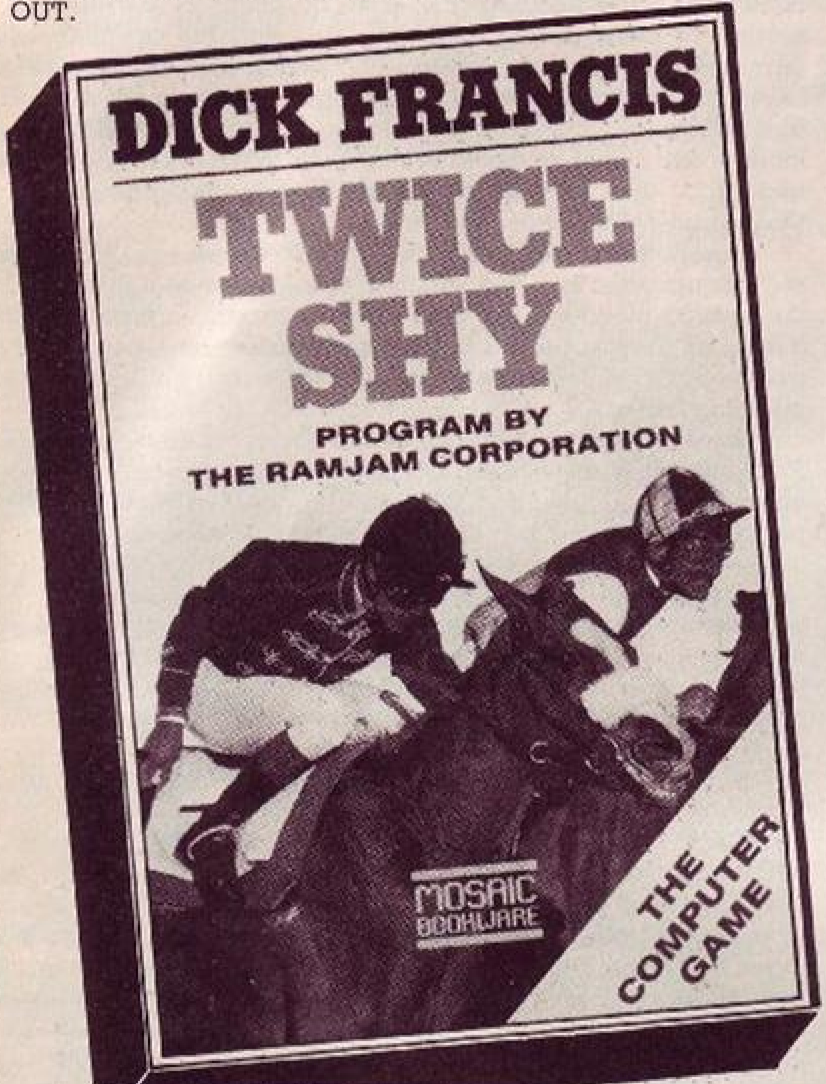
There are also problems of interpretation. The most obvious one concerns the use of containers. As any adventure programmer will know, containers are a special class of objects in a program that can be used to hold other objects. They are not easy to implement and for that reason most adventures simply don't use them.

Twice Shy, on the other hand, has several containers – but it can't use them. So for example, we have a pill bottle full of pills. If you open the bottle, the pills spill all over the floor. You can then get the pills, and if you then type PUT PILLS IN BOTTLE the program will reply OK. Typing INVENTORY, however, will now reveal that you have the empty pill bottle but no pills. The clever proggy has decided that PUT PILLS IN BOTTLE means drop the pills – which it doesn't, in my book.

 You can eat it?

Another example of a botched container is your trusty Peugeot which you use to drive along the motorway and visit various Important Places. If you drop something while in the car, it (presumably) falls through the bottom of the car onto the road. So dropping the aforementioned pills, for example, in the car while driving along the motorway will in fact dump the pills on the motorway but not in the car.

Even better (or worse) is that typing GET OUT OF CAR can actually get you into it, and then typing GET INTO CAR gives you YOU STOP THE CAR, SWITCH OFF THE ENGINE, AND GET OUT.



Now this may be nitpicking, but personally I found it succeeded admirably in robbing me of any confidence I may have had in the program. For example, when I first got stuck on the motorway, I began to think there might be a bug in the program (there wasn't).

Other weaknesses include the mazes. There's a maze in a caravan park which isn't really a maze at all. You can drop objects in it and find that there is in fact only one location, which you exit by pressing the right sequence of keys. This means that luck, not logic, gets you out – which isn't too thrilling for the seasoned adventurer.

The good thing about the game, however, is definitely the plot. The skills of Dick Francis and adaptor Richard Kelly do show through despite the poor parser. There is a good deal of excitement here and some touches of humour as well (as when dealing with a very greedy and unhelpful garage hand). The graphics are good and the display well-designed. What a pity that the parser let it down.

(You also get a racing-game simulation on the reverse side of the cassette. Like most computer racing simulations you simply assess the odds, place a bet from a limited pool of cash, and try to increase your worldly wealth. Fun but – like the parser – rather limited.)

	Kwah!	*Archers*	*Bugsy*	*Twice Shy*
Atmosphere	65%	60%	65%	75%
Interaction	63%	n/a	67%	58%
Challenge	70%	n/a	70%	69%
AA rating	69%	60%	69%	68%

Introducing Pilg Programming...



Ever wondered what goes on inside an adventure program? Asked yourself how Level 9 crams so much text into your Arnold? Puzzled over the intricacies of 'talking' to other characters? Wondered just how it is that Infocom makes its parser so clever?

Now the answers shall be yours, my fellow Pilgs. In response to loud cries from all and sundry, the Cowled Crusader opens up the mysteries of advanced adventure programming to you all.

That's not to say that if you're just a beginner you won't find anything you understand. On the contrary, we'll be starting with basics in every case – and all the sample programs will be in Basic, though the principles involved translate very easily into machine-code if you're that way inclined.

The series will run in seven parts. In part one, beginning next month, we'll look at the internal structure of an adventure game and see how each part of the program interacts with the others. We'll plan a sample game, which will then be fully programmed in the following issues.

We'll then look in detail at the following subjects in turn:

- **Data Structures.** The most important subject of all. How to hold your vocabulary, objects, locations etc in your game so that you can manipulate them efficiently.
- **The Parser.** How to program an efficient parser that can cope with complex inputs, speech, and give meaningful error messages.
- **Actions.** Looking at the most common action verbs and how they are programmed. Find out how best to examine objects and chat to pekinese dogs.
- **Taking decisions.** IF statements aren't much good in adventures; you'd need hundreds of them. So we investigate using 'decision trees' – a concise method of deciding what happens in response to your inputs.
- **Characters.** Devising an efficient 'character handler' that will give you truly independent, interactive characters. And all in Basic!
- **Text compression.** The Cowled Crusader will introduce you to the perils and pitfalls of dictionaries, Huffman Encoding, and variable bit lengths. 'Tis simple when you know how, my fellow Pilgs, and soon you too will be able to say 'The Man With The Rod and Staff' using half the number of bytes!

And in the end what will you have? Nothing less than a complete type-in game which, though limited in scope, will have taught you all you need to know about programming your favourite nightmare, fantasy or thriller. And on the way we'll look at adventure-game generators and tips for using them, plus other juicy titbits from the world of adventure programming.

Be Prepared!

Lords and Ladies of Adventure

Each month intrepid souls send in their names and addresses together with a list of the programs they have completed. And what happens? They get letters and phone calls from all over the world, and make new friends from the far corners of Adventureland.

And of course, they win everlasting fame. So pop your details on a postcard and send it to the Pilg. Remember – no phone calls to these brave souls after 10pm or at other unsocial hours and if you write include an SAE.

Mindshadow, Never-Ending Story, Espionage Island, The Hobbit, Price of Magick, Message from Andromeda, Heroes of Karn, Return to Eden
Rod Dunlop, 43 Sutherland Avenue, Pollokshields, Glasgow, G41 4ET

Fantasia Diamond, Return to Eden, Message from Andromeda, Seabase Delta, Spytrek
Paul, 7 Clyde Avenue, Fernigair, Hamilton, Lanarkshire, ML3 7TY

Seabase Delta, Message from Andromeda, Forest at the Worlds End, Warlord
Mark Dodds, 26 Stevenson Street, Dean Bank, Ferryhill, Co Durham, DL17 8PG

Lords of Time, Warlord, Forest at Worlds End, Subsunk, Micro Man, Jewels of Babylon, Mural, Emerald Isle, Collossal Adventure, Heroes of Karn, Mindshadow, Price of Magik, Red Moon, Rebel Planet, After Shock
B E Alderson, 47 Stonegate Avenue, Leeds 7

Red Moon, Worm in Paradise, Price of Magic, Heroes of Karn, Jewels of Babylon, Forest at Worlds End, Message From Andromeda
Bob Weeks, 9A Lydney Close, Paulsgrove, Portsmouth, Hants, PO6 3QG

Heroes of Karn, Message from Andromeda, Forest at Worlds End, Subsunk
Mark Lloyd, 22 The Sycamores, Sallins Road, Naas, Co Kildare, Eire

Warlord, Heroes of Karn, Never Ending Story, Ship of Doom
Paul – Timothy Stitt, Site 101, Beechill Road, Newtownbreda, Belfast, BT8

Clue Sniffing with the Pilgrim

Mordon's Quest
Octopuses hate light.
Wait for the tide at the well-shaft.

Mindshadow
Wearing the canvas prevents a pain in the neck.

Bored of the Rings
Giblet's sneeze is very powerful.

Price of Magik
Remember that the monkey is a brass one and that the cold one is very cold.

Lord of the Rings
Can't get to the Ford before the Black Riders? Why not gallop there.

After Shock
Enter drain in Scott Street and then go ESSEESSWSSSWSSSE to get to sluicegate.

To the Pilgrim
Amstrad Action
The Old Barn
Somerton, Somerset
TA11 5AH

My favourite three adventures are:

	Game	**Company**
1		
2		
3		

The reasons for my first choice above are:

The free game I would like if I'm a lucky Pilg is:

My name:

My address (BLOCK CAPITALS ONLY, PLEASE)

Wizard's Mailbag

Well, what have we this month? First there were the letters from Jim Nagel, Amstrad Action's new editor-supremo. Jim left so many letters for the Procrastinating Pilg about his deadlines that my BT Gold mailbox practically took over the mainframe system it was running on.

But it does go to show how popular this modem business is getting. *MUD*, for example, has also been a cause for much comment in the mailbag. Rik Emeran wrote in a while back saying: "I have played both BT MUD and the original, and personally I think that nothing can match the atmosphere of Essex *MUD*. It's also free to access and no account is needed. Before I bought an Amstrad 6128 I had a Spectrum and a Prism modem and I used to access Prestel from six in the evening until midnight – then I would log off and log onto *MUD* till seven in the morning. *That's* how good it is!"

Others have also asked for more details on *MUD* and regular updates. The Pilg will therefore oblige with pleasure in the coming months – and give more coverage to these on-line games as they appear. I hope also to have some news of the proposed Level 9 interactive game, but I think it's still some way off being finished.

Some of you may remember a magazine called *Adventure Probe* by Pat Winstanly and her friend Sandra (whose surname I unfortunately don't recall). Sue Burke has written in full of praise for this mag, which you can get by sending £9 for 12 issues to Pat Winstanley at 13 Hollington Way, Wigan, WN3 6LS.

Actually, Sue's letter is so over-the-top with praise for this publication that I can't help feeling that either Pat or Sandra must have slipped her a fiver! How about this for a puff? "Anyone who reads adventure pages and plays adventure games cannot call themselves an adventurer till they have sent for these magazines."

Hmmmm!! Perhaps it wasn't a fiver after all – must have been at least a tenner!

Finally, here's a personal call from the Pilg: if you live within easy reach of Land's End in Cornwall, how would you fancy forming part of a small Adventure Club? Once every month the Cowled Crusader abandons his quest and hightails it down to the windy wastes of West Cornwall, and it occurs to me that 1987 might be a good time for some Cornish lads and lasses to get together – and perhaps help contribute to these pages in the process. Write to me c/o *Amstrad Action* if you think you would like to be involved.

And write to me anyway. The One with the Rod and Staff awaits your missives! Though please remember that I am *not* a helpline service – that's what the Lords and Ladies are there for, so use them well.

New Year Special!

Everyone goes overboard with Christmas Specials, so the Pilg is going to go one better and hit you right between the eyes with a New Year Special. We'll look over the Old Year, and ring in the New, with a searching look at the adventure games of 1986 and a bit of Crystal Ball gazing for 1987.

You'll find out some horrifying secrets – what the Pilg *really* thinks of some of the games he's seen in the last year, and what he hopes to see in the near future. 'Twill be an eye-opener indeed for some. Keep in touch and reserve your copy now before the High Court bans its publication!

Contacting the Pilg

Don't forget that the Pilg has an electronic mailbox on Telecom Gold – the number is 83:JNL251. I have a feeling that clever things happening at Prestel mean that Micronet users can now – or will shortly be able to – contact me via a new Prestel/Gold gateway.

And of course if you have not a modem, fellow Pilgs, you have merely to sharpen a feather, dip it in ink, and scrawl away. Send it to *Amstrad Action*, from whence tiny gnomes with fur between the toes will whisk it to wherever the Pilg may be.

Santa's choice

During the two or so years of your Amstrad's life, major hardware developments have occurred, giving you power beyond your wildest dreams. Serious software has become better and more powerful in its own way. And as for games, standards today are so much higher than in Arnold's infancy.

This article is designed to help you choose software or add-ons for Christmas. From 16 months of *Amstrad Action*, these are the products technical editor Richard Monteiro recommends above others in the same categories.

And in the final two pages of this special section, Bob Wade presents our choice of the all-time top 20 games.

Thanks for the memory

When it comes to the Amstrad's memory – exploring it, adding to it or even altering its contents – there are a host of work-horses at your service.

Maxam

Arnor, £20 tape, £27 disk, £40 rom, £50 cartridge

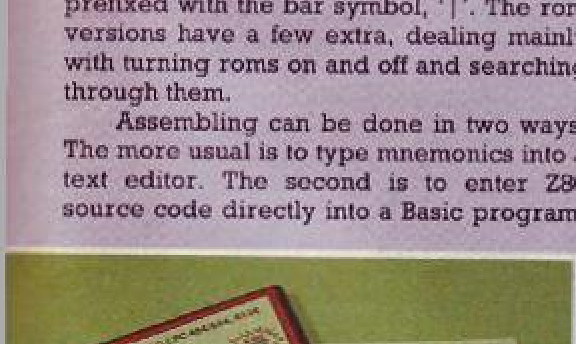
Maxam must be the most efficient Amstrad machine-code assembler on the market. It has everything you could wish for, including a monitor and text editor. Its speed and ease of use – especially in its rom version – put it head and shoulders above similar products.

All versions give you new commands, prefixed with the bar symbol, '|'. The rom versions have a few extra, dealing mainly with turning roms on and off and searching through them.

Assembling can be done in two ways. The more usual is to type mnemonics into a text editor. The second is to enter Z80 source code directly into a Basic program. Here each line must begin with an apostrophe; *Maxam* will interpret this and assemble the code. The assembler is the two-pass type, giving up to 10 nested loops.

Any part of memory can be disassembled, edited or inspected. Arnor has intercepted the print jumpblock and substituted a custom routine, making the speed of text printing a joy and memory search very rapid.

Other *Maxam* features make memory manipulation a pleasure. It certainly offers much to both the novice and the old whip when dabbling with machine-code.



Ram expansion card

Vortex, 464/664 (6128 version imminent), £148 – issue 6

Those talented Germans brought you this revolutionary expansion ram almost a year ago; today it still looks and sounds as impressive.



The CPC gains from 64k right up to 512k extra memory from the various Vortex models. It can be split up, with 32k set aside as a printer buffer. Banks of memory can be configured to store screen images, then (using extra commands on the 16k rom supplied) the screens can be displayed in rapid succession; thus animation sequences are possible.

Using the largest of the boards, a possible 288k can be used for Basic programming, and a further 256k is available for data storage. If you can write a basic program that large I shall be stunned.

Extras include an exceedingly fast Z80 monitor, an extended Basic graphics set and a souped-up character-print routine. A hefty manual gives full instructions on fitting procedures and extended commands.

This is an exceptional board, with an army of practical uses. If you have the time and money, it's a worthwhile purchase.

Silicon Disk

DK'Tronics, £100 – issue 8

The fastest storage system available comes in a little box which gets plugged into the

Prices are rounded to the nearest pound. For an in-depth review, see the back issue of AA **indicated.**

back of Arnold.

The 256k Silicon Disk will log on as drive B or drive C, depending whether you have one or two drives already. On power-up it will show 254k free. It is straightforward to transfer files between ordinary drives and the silicon disk, using commands on the rom inside the silicon disk.

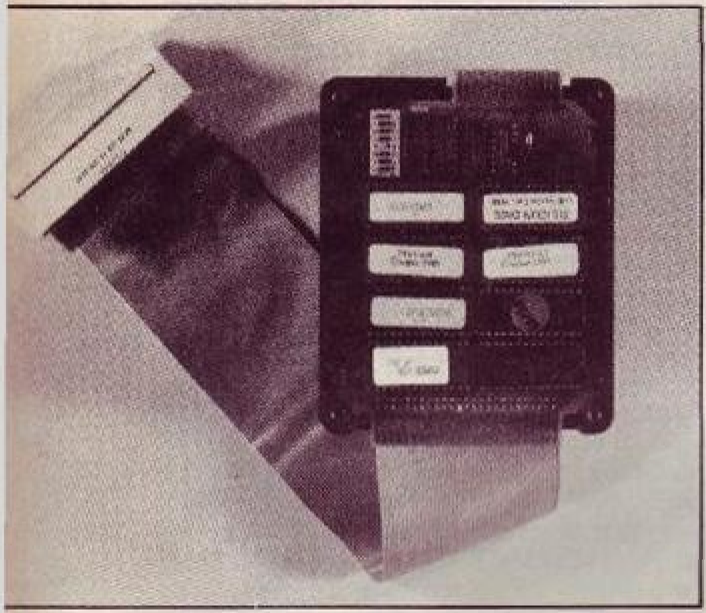
The CP/M 2.2 and CP/M Plus operating systems can cope with the silicon disk by means of a file named SDISC.COM saved onto your system disk. Other programs reserve a certain amount of memory for the new disk to operate properly.

A very worthy piece of hardware if you require fast or frequent storage or retrieval.

Rombo
Rombo Productions, £35 – issue 10

Rombo is a neat box with eight sockets for you to insert roms. The rom numbers can range from 0 to 7 or 8 to 15 – selected by positioning a link. It caters for foreground and background roms.

Rombo connects to any of the CPC machines by a length of ribbon cable. This lets you locate the board where you like.



Two through-connectors mean that if another of your peripherals has no through-connector, you're not short of a port.

Switching a rom on or off couldn't be simpler: flip a dip-switch provided on the board. They are all clearly marked to leave no room for confusion. And it's easy to position roms.

If like me you find software handier on rom, *Rombo* is a good board to plug in. Thoroughly recommended.

Multiface II
Romantic Robot, £47

Tape-to-disk at the touch of a button. Ridiculous, you may say, but it works every time. *Multiface* can stop any program in its tracks and save the program from memory to either tape or disk. It's completely fool-proof. Similar products have had problems with screen size, colour and even sound; *Multiface* can handle all these without a second thought.



That alone would have satisfied many people, but Romantic Robot has gone one step further, incorporating a memory editor. No program is safe with this: everything is out in the open, including the Z80 registers, CRTC data and any part of memory.

Don't be fooled into thinking this will result in mass piracy, however. The *Multiface* unit itself must be plugged into your Amstrad to allow reloading of a program it saved.

Multiface II must be the cleverest hardware device at present – a necessity for disk owners who thought they were stuck with loading from tape every time.

Business boons

Because the CP/M operating system comes bundled with the Amstrad machines, there is a vast amount of software available for them. Many software houses have picked up on this and have produced ready-to-run packages for the CPCs – in most cases at a price greatly reduced from the original.

Protext
Arnor, £20 tape, £27 disk, £40 rom, £50 cartridge – issue 3

For speed, ease of use and features list, *Protext* must be the most powerful word-processor on the Amstrad market. *WordStar* may be the micro world's standard, but it's also one of the slowest, most infuriating and most difficult to come to gripes (sic!) with.

Protext has all the usual wordprocessing commands: reformat a paragraph or entire text, find and replace, blocks (move, copy, delete), cursor control (move by character, word, line, paragraph, to beginning or end of text) and a host of features too numerous to mention.



If it's power you want from a spreadsheet, *Scratchpad* has it plus a load more. It may be a bit pricey for home use only, but really cost-effective for small businesses.

Scratchpad Plus will take up a whopping 49k of memory before you even start. For this reason, it's compatible with CP/M Plus only. You may well wonder where the created data will be stored. This is kept in 'virtual memory' – on the 6128 this will be restricted to the free-space on the disk (in

Since hardware and serious software are not so easy to find in shops as games, here are contacts for products featured in this section:

AMS (Advanced Memory Systems) 116-70 Wilderspool Causeway, Warrington, WA4 6QA. (0925) 41 3501

Amstrad Consumer Electonics Brentwood House, 169 Kings Rd, Brentwood, Essex, CM14 4EF. (0277) 22 8888

Arnor Ltd 118 Whitehorse Rd, Croydon, CR0 2JF. 01-684 8009

Caxton Software 10 Bedford St, London, WC2E 9HE. 01-379 6502

Cheetah Marketing Ltd 1 Willowbrook Science Park, Crickhowell Rd, St Mellons, Cardiff. (0222) 77 7337

DK'Tronics Ltd Gorleston, Great Yarmouth, Norfolk, NR31 6BE. (0493) 60 2926

The Electric Studio PO Box 96, Luton, LU3 2JP. (0582) 59 5222

First Software Ltd 20 Horseshoe Park, Pangbourne, Berks. (07357) 5244

Melbourne House 60 High St, Hampton Wick, Kingston-upon-Thames, Surrey, KT1 4DB. 01-943 3911

Pace Micro Technology Juniper View, Allerton Rd, Bradford, West Yorkshire. (0274) 48 8211

Rainbird Software 64 New Oxford St, London, WC1 1PS. 01-240 8837

Romantic Robot Ltd 15 Hayland Close, London, NW9 0LH. 01-200 8870

Rombo Productions 62 Meadowbank, Ladywell, Livingston, West Lothian, EH54 6EL. (0506) 39046

Vanguard Leisure Church Row Chambers, Franklands, Longton, Preston, PR4 5PD. (0772) 61 7665

Vortex (UK distributor:) Screens Microcomputers, Main Avenue, Morr Park, Northwood, Middlesex. (09274) 20527

Let's communicate

Gone are the days when notes were transmitted via pony or pigeon. Now it's electronic mailboxes such as Prestel, Telecom Gold and the free bulletin boards. All your CPC needs is a serial interface, a modem and comms software.

Nightingale with Commstar
Pace or Amstrad, £150 – issue 8

The reason for choosing the Nightingale modem was simple: the software with it is the most friendly and easy-to-use and, above all, has a vast number of features lacking on similar products. Amstrad now also sells the Pace product badged with its own name.

The modem includes all standard options: 1200/75 and 300/300 baud rates, answer and originate. (There is also a button – sealed over – that allows for CCITT and Bell dialling tones, which are not legal in this country.)

The transition of *Commstar* software from the BBC micro over to the Amstrad has been a good one. Everything is at your control: baud rates, parity, stop bits, data bits and anything else you may find en-route. Ascii and non-Ascii files (such as binary ones), can be down- or uploaded with ease, for Christensen's protocol, *Xmodem*, has been included. The function keys can be set up for your passwords, all colours can be changed while on-line – these are just some of the many useful and innovative features.

It may not have some of the features of up-market modems, but the software is well above that of ordinary commercial competitors.



RS232C serial interface
Amstrad, £50

The RS232 interface has many uses. One is to communicate with other computers via a modem, but it can also link your Amstrad to printers, plotters, robot arms and many other wonderful gadgets.

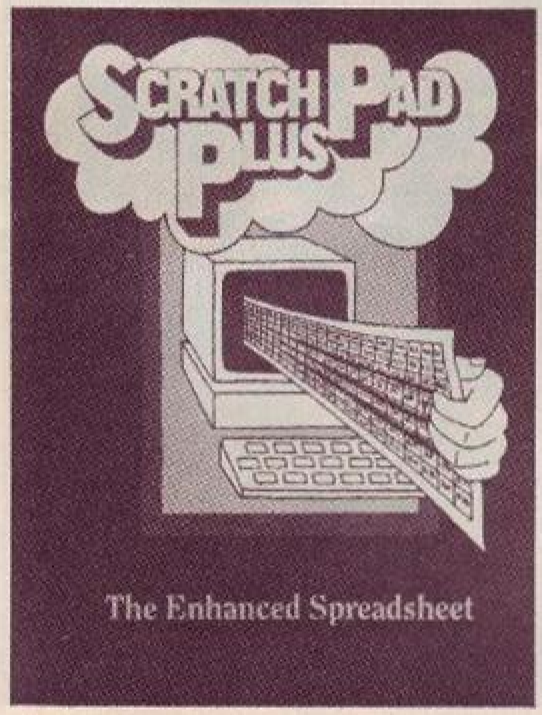
Baud rates and other options are all open to change. Software on rom lets you communicate with bulletin boards and the like. Or if you write your own software, the interface is fully compatible with the CP/M operating system.

Although rather on the expensive side, the interface has lots of scope, allowing you to plug virtually anything into Arnold.

Scratchpad Plus
Caxton, £70 disk (6128 only) – issue 8

Printer features are impressive: emphasized, condensed, doublestrike, elite, italics, enlarged, pica, NLQ and underline at a keystroke. It is possible to go further and define your own printer driver.

Moving text is a rapid and joyous task, like all operations on *Protext*. Don't even consider anything else!



theory this could be 120k).

A maximum of 5,000 cells per sheet is allowed. The dimensions can be set to your requirements. So, for example, you could have five columns and 1000 rows or vice-versa.

Scratchpad really shows its worth with its range of formulae and functions. Simple arithmetic, trigonometric, scientific and if-then functions are all readily accessible.

A very impressive spreadsheet that may be a little daunting to set up and use correctly. Once mastered, though, nothing can match it.

dBase II
First Software, £119 disk (6128 only) – issue 11

dBase II is the best-known and probably the most widely used of all CP/M databases. It may not be the best, but on the Amstrad it certainly has the top spot.

For each field, the name, size and data type must be specified. Data type can be numeric, character or logical (true-false). Once the file has been created, many options are available such as add, delete, browse or print out in report format. Editing is like using *WordStar*. Data can be sorted alphabetically or numerically on a given field. Several types of indexing can be present (it's important to update the indexes every time you alter a file).

For speed and power, *dBase II* is outclasses anything similar on the Amstrad.

Musical mastery

The sounds coming from Arnold's speaker have greatly improved since the days when a beep was considered earth-shattering stuff. You are certainly spoilt for choice with the wealth of software for composing music and hardware devices for controlling sound output.

Speech Synthesizer
DK'Tronics, £30 tape, £40 rom

The speech synthesizer is a neat box styled to match your Amstrad. A wire from the box plugs into the computer's sound-output socket. Two speakers are supplied, looking like car speakers. Software on either cassette or rom (with a price difference) puts various new commands at your fingertips.

Fifty-nine discrete sounds are available, giving a fair approximation to English mumbling. Text can be directly 'spoken' or noises can be emitted via the speech synth, giving you an extra voice or sound channel.

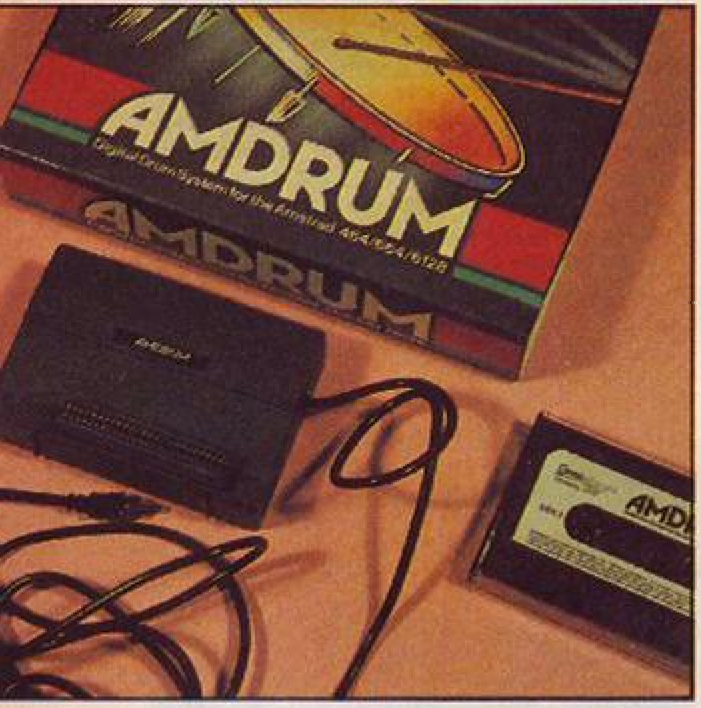
On its own, this speech synth is a must; however, with the added bonus of stereo output, it is a definite must.

Amdrum
Cheetah Marketing, £35 – issue 13

The Amdrum is a small unit that you plug into the back of your Amstrad. It provides your computer with its own drum-machine, at a very reasonable price compared to dedicated drum-machines.

Amdrum has all its own circuitry to produce drum effects, ignoring Arnold's internal sound chip. Unfortunately you need an amplifier to hear anything. Mono sound output comes from a lead attached to Amdrum's side, intended for the auxiliary input socket of an amplifier.

Software on cassette provides pre-defined drum sounds: bass, snare, mid and low toms, cowbell, open and closed hihats and claps. The drums are surprisingly realistic, giving you the feel of a thoroughly modern sound.



The Music System
Rainbird, £16 tape, £20 disk – issue 6

The Advanced Music System
Rainbird, £30 disk only – issue 13

Selecting one of the many options within either version of *The Music System* is simplicity itself – everything is done with windows and icons. This greatly adds to the program's presentation and ease of use.

If you wish to create a piece of music, select the edit/playback module. This screen is dominated by the VMW (voice monitor window). The Amstrad has three voices or sound channels, and these can be edited only one at a time. Rainbird's scrolling windows, however, make editing a joy.

In recording mode Arnold's keys behave as a piano. You can use this mode simply for practising, or to enter notes directly into your composition.

Playing back your creation is superb; it is possible to scroll your piece one note at a time through the VMW – this allows easy detection of that all-too-frequent bum note. Of course, playback can range from virtual stand-still right up to *prestissimo*.

The Advanced Music System adds two new modules: printout and file-linking.

The printout module handles up to six voices on one stave, with dynamics and even a line of lyrics or additional directions. It can drive a wide range of dot-matrix printers, using continuous or single-sheet paper.

File-linking overcomes the memory limitation of the original system: a maximum of only 1,000 notes – and that's to be shared among three voice channels. With the file-linker joining up to 13 music files together, well over 6,000 notes can be played.

The Music System was way ahead of its time when it first appeared. Today it still has no serious competion, and now with *The Advanced Music System*, is there anything that can hope to rival it?

Electronic Music Utility
Discovery, £15 tape, £20 disk – issue 13

EMU is not just a simple music program that allows you to create and play back your compositions; it is actually possible to add music to your own programs.

Selecting 'Music' from the main menu gives you the editing screen; from which recording and playback are possible. All three voices are displayed at once, allowing for easy creation of harmonies. Particulary good are the inserting and deleting of notes – simple yet rapid.

Once you have created your music piece, select the 'Save-RSX' option and a 'stand-alone' file will be saved to cassette or disc. This is a machine-code routine that can be inserted painlessly into your Basic programs. There it runs under interrupt, allowing Arnold to get on with other tasks.

EMU may not perform to *The Music System*'s standards, but certainly has a trick or two up its sleve which make it a very worthwhile purchase – and at £14.95 you can't complain.

Maestro
Vanguard Leisure, £40 – issue 13

Maestro is designed to improve the sound output from your Amstrad, both in quality and volume – this it does to an incredible degree.

The package consists of a small amplifier, a pair of headphones, two solidly built speakers and demonstration software. The amplifier has independent volume controls for each speaker and a button to choose between speakers and headphones.

Having strong magnets, the speakers shouldn't be positioned too near the monitor (as they can distort the picture), nor too close to your disc drive (data can be corrupted). The speakers are dual-cone, which means that the bass and treble frequencies are played by different parts of the speaker. The technique is not up to hi-fi standards of separate speakers for the jobs, but ideal for use on your Arnold.

The Walkman-type headphones have an annoyingly short lead to the amplifier – your head will practically rest on the keyboard. That is the only major criticism.

If you wish your Amstrad to sound like a music system, then treat your ears to *Maestro; Monty on the Run* and *Glider Rider* never sounded so good.

Letters perfect

DMP2000 printer
Amstrad, £160 – issue 3

The DMP2000 is a gem of a printer. It has the specs of some printers costing more than £300.

The printer appears very futuristic, standing on retractable legs about four inches above the desk; this allows paper to fold neatly underneath.

Over a hundred combinations of typeface and typestyle are available. There are two distinctive typefaces: NLQ (near letter-quality) and draft. The speeds are 10 and 105 characters per second. Condensed, superscript, subscript, bold, italics and doublestrike are all present. International characters can be produced by setting dip-switches or through software. It is even possible to define your own characters to send to the printer.

Graphics modes allow different dot densities, print speeds and line spacing. Industry-standard Epson control codes are used so the printer will work with software using these.



Head start on art

Art packages have come a long way. Remember when Kumas' *Artwork* was the hottest thing around? If something like that were released today, you would probably laugh. Now it's more a case of crying for joy.

The Art Studio
Rainbird, £20 disk (6128 only) – issue 14

This has a very impressive list of features, which I could go on about all day. There is room here just for brief details.

You can draw only in modes 1 and 2; however, an enhanced version is due out shortly. Windows, icons, pull-down menus, operation with keyboard, joystick or mouse – all add to its simplicity of use.

The printer-dump routines are a joy. Horizontal and vertical scales can be chosen, and also the type of printer. Printouts themselves can be placed horizontally or vertically on the paper, and dumps are shaded according to the on-screen colours.

You can write text within your pictures – nine print sizes are available, and can run sideways or upside-down if you like. A font editor is built in to let you design your own characters.

You can window-in on your drawings, cut and paste, enlarge, reduce, rotate, stretch, squash and anything else you could think of – it's all there, and all extremely easy to implement.

All I can say is that if you enjoy dipping your fingers in paint and own a 6128 then this is a must.



Melbourne Draw
Melbourne House, £15 tape, £25 disk – issue 7

Melbourne Draw is exceptional in that it manages to squeeze so many options into a relatively small memory space. Unlike *Art Studio*, which makes use of the 6128's extra memory, all the *Melbourne Draw* routines including your designs must be placed within 64k.

Options are selected from pull-down menus (which take up memory and can wipe out your picture – you are, however, given warning) or by two-key sequences.

All the standard features are present: single pixels, lines, circles, ellipses, boxes and so forth. You can use all of the Amstrad's 27 colours and three modes.

With other nice features you can cut and paste certain areas of the screen, or mirror an image horizontally or vertically. Defining your own background texture is fun, with a texture screen popping up to practise on.

Overall a very flexible package.

AMX Mouse
AMS, £70 tape or disk – issue 3

If you think a mouse is a small furry mammal that scares the womenfolk away, look again. The computer species first appeared in this country with Apple machines several years ago, only recently adapting itself to the Amstrad. The mouse is an input device – something to supplement the keyboard – that you roll round your desktop, controlling a pointer on screen.



As an instrument to aid the artist, the mouse needs fairly sophisticated art software to show what it can do. This mouse comes with a utility called *AMX Art*, with a host of features: lines, circles, boxes, fill, spray-paint (more than 30 patterns) – and text anywhere. The mouse is user-friendly and greatly simplifies creating your masterpiece.

All options are chosen on screen from 'icons' – little pictures representing various functions. Move the mouse till the pointer touches the icon you want, then click the mouse's button to select it.

On the minus side, *AMX Art* lacks many advanced features that certain art packages have as standard: rotate, magnify and reduce. Nevertheless a mouse is a worthwile pet to have by your side, especially with the new software *Pagemaker* and *Max* just over the horizon.

Light Pen
Electric Studio, £20 tape, £30 disk – issue 3

Lightpens are another input device – the computer senses where you touch it to the screen. Lightpens have never been known for accuracy or ease of control, but Electric Studio seems to have eliminated most of these problems.

The drawing utility that accompanies the pen is what makes the package. It's impossible to list all the features. As with other art packages, lines, circles, boxes and so on are standard. But the lightpen package adds numerous fill, texture, brush-size and mirror commands. A picture can be designed in any mode, using any of the 27 colours. For really detailed work, you can choose joystick or keyboard.

For price, functions and simplicity, Electric Studio's lightpen outshines its competitors – definitely worth putting in the Christmas stocking.



The CPC sees

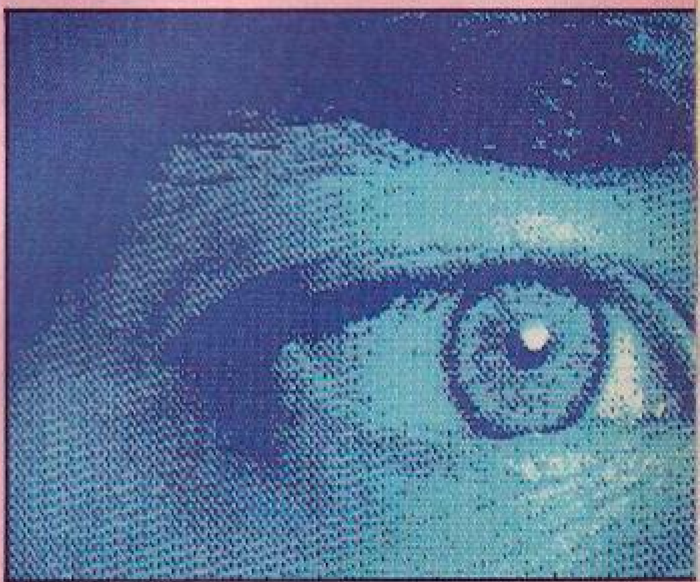
Vidi
Rombo Productions, £90 – issue 15

Vidi is a frame grabber or video digitizer. It will capture a screen from a video camera or video recorder and reproduce it on your Amstrad's screen.

Screens can be produced in all modes, although it takes several seconds to generate a mode 0 image. All the colours can be adjusted; so can brightness and contrast settings.

Up to three frames a second can be displayed, giving flickery animation. A frame can be frozen at any point and dumped to printer, cassette or disk. With an art package, you can touch it up.

Vidi is on the frontiers of today's micro technology, a very exciting product.



The All-Time A

Bob Wade picks the 20 games that, in the two-

Since *Amstrad Action* hit the streets 16 months ago with over 130 games reviewed in the first issue, we've reviewed on average 20 games each issue, making a grand total of over 450. The majority have long since been forgotten, and even some Raves and Mastergames of the past don't look as impressive by today's standards.

From out of this mass of software I've chosen 20 games that have stood the test of time and are just as enjoyable today.

Doubtless you'll have your own favourites. But anyone new to the Amstrad CPC machines this Christmas won't go far wrong with any of these.

Every single game was originally rated 90% or over and would still get that high a percentage today.

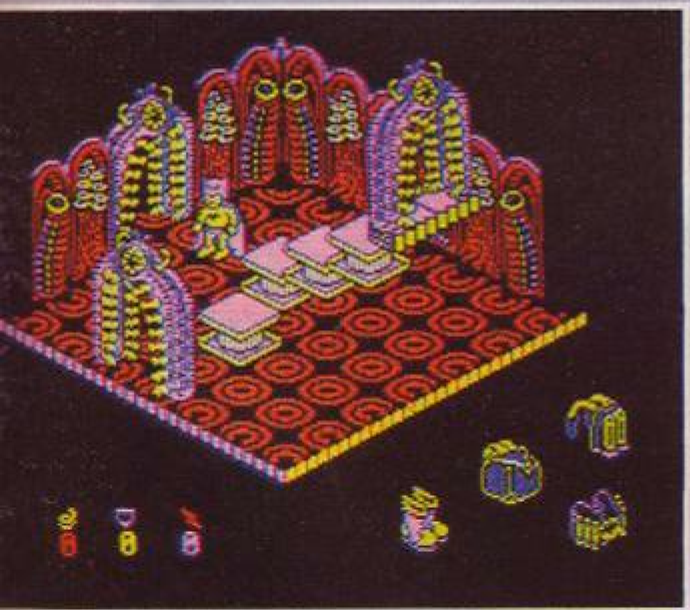
They are arranged here in alphabetical order because it's virtually impossible to choose an order of merit – they're all classics in their own right.

The price given for each game is the recommended retail price that was in force when we first reviewed it. If you shop for special offers today, you may be lucky (you could try the back of this magazine for starters!)

BATMAN

Ocean – issue 8, Rave
£8.95 cass, £14.95 disk

Probably Ocean's best game to date. Isometric 3D graphics in glorious colour that will amaze you. 150 rooms in which Batman has to find the seven pieces of the Batmobile by solving devious and ingenious puzzles. Still a 'must' buy for all arcade-adventurers.



BOULDERDASH

Mirrorsoft – issue 1, Rave
£9.95 cass, £14.95 disk

A real oldie, but with addictive and original gameplay that still hasn't been matched. Rockford has to collect jewels from 16 caverns, each with five different levels. Planning, speed, reflexes and persistence are required to complete what is still a highly addictive and challenging game.

BOUNDER

Gremlin – issue 9, Mastergame
£8.95 cass, £13.95 disk

Sheer addiction and difficulty in the game that started the 'bouncing' genre. A scrolling overhead view of your tennis ball as you try to bounce it through 10 devilishly difficult courses. Great colour graphics and wildly addictive gameplay.



DOOMDARK'S REVENGE

Beyond – issue 13, Mastergame
£9.95 cass, £14.95 disk

Over 6,000 locations and a host of characters to meet. The follow-up to *Lords of Midnight*, which should be bracketed with it as an essential buy for anyone enjoying a combination of adventure and war game. Detailed panoramic views and tricky character interaction give you a whole world to explore.

DRUID

Firebird – issue 15, Mastergame
£7.95 cass, £14.95 disk

A more recent classic that should still put joysticks through their paces. An eight-level Celtic cracker featuring great colour graphics, a scrolling screen, blasting action and quick thinking under pressure. The mazes, hordes of creatures, spells and powers will have you bewitched in no time.



ELITE

Firebird – issue 5, Mastergame
£14.95 cass, £19.95 disk

Still unrivalled as the best 3D space action game. A brilliant blend of 3D vector-graphic blasting and shrewd trading create a real environment from which it's hard to escape. You'll live the dogfights and struggle constantly to stay alive and attain the legendary Elite status.

GET DEXTER

PSS/Ere – issue 8, Mastergame
£9.95 cass, £14.95 disk

The first, and still the best, of the French imports. Not only does it have superb isometric 3D colour graphics but many wickedly clever puzzles and features as well. This and *Batman* are the two arcade adventures that everyone should have.

HEAVY ON THE MAGICK

Gargoyle – issue 10, Mastergame
£9.95 cass, £14.95 disk

The one and only animated adventure that roused the Pilgrim to do a Mastergame review. An ingenious and original mixture of text commands, large animated figures and Gargoyle's tricky puzzles.

HIGHWAY ENCOUNTER

Vortex – issue 2, Mastergame
£8.95 cass, £13.95 disk

An unforgettable struggle through 30 zones of highway defended by hordes of alien creatures. Detailed 3D graphics, mean obstacles to get past – lots of strategy needed as well. The successor, *Alien Highway* is worth getting as well, for it introduces several new features.

KNIGHT TYME

Mastertronic – issue 11, Mastergame
£2.99 cass

The only budget-priced Mastergame so far, but a game that would be great at any

mstrad Top 20

year history of the CPCs, stand out from the crowd

price. It features 'windimation' that allows lots of adventuring and puzzles within an attractive graphic setting. Not only is it cheap but it's funny too.

LIGHTFORCE
FTL – issue 15, Rave
£8.95 cass, £13.95 disk

Gargoyle's venture into arcade games paid big dividends with a brilliant vertically scrolling shoot-em-up. Varied graphic backgrounds and aliens in tremendous colour. Lots of difficult stages and fast action that will have all triggerhappy gameplayers glued to their joysticks.



MARSPORT
Gargoyle – issue 3, Mastergame
£9.95 cass, £13.95 disk

Another game that's over a year old but still knocks spots off most recent titles. A combination of great animation, real atmosphere, large playing area and many puzzles. So many objects, doors, levels and revolting aliens you won't know what to do with them.

REVOLUTION
Vortex – issue 14, Mastergame
£9.95 cass, £14.95 disk

This took bouncing games to new and abstract heights. It's a delightfully playable game where a bouncing ball leaps around a weird futuristic environment trying to hit small red cubes.

SORCERY PLUS
Amsoft/Virgin – issue 1, Rave
£13.95 disk

The disk version of Virgin's original Amstrad blockbuster. Its detailed, multi-colour graphics still look tremendous today. The gameplay also stands up well as you explore the eerie land killing all manner of beasts in order to rescue trapped sorcerers and destroy the evil Necromancer.

SPINDIZZY
Electric Dreams – issue 6, Mastergame
£9.95 cass, £14.95 disk

Quite possibly the most awe-inspiring Amstrad game I've seen. Based on the arcade game *Marble Madness* and providing over 360 screens of graphically superb, joystick-wrenching action. There are puzzles, obstacles, great screen designs and enough gameplay to make you forget to eat or sleep.

STARSTRIKE II
Realtime – issue 12, Mastergame
£9.95 cass, £14.95 disk

You've never seen 3D, solid, multi-colour graphics like this before. A masterly shoot-em-up that combines amazing effects on screen with great gameplay to make a stunning game. Six completely different levels where you won't believe your eyes.

TAU CETI – SPECIAL EDITION
CRL – issue 10, Rave
£14.95 disk

If *Elite* is unrivalled as the best 3D space action game then this disk version of *Tau Ceti* is unrivalled as the best 3D planet-surface action game. Tremendous 3D graphics, many different aliens, docking with buildings and a tough overall strategy task.

THRUST
Firebird – issue 12, Rave
£1.99 cass

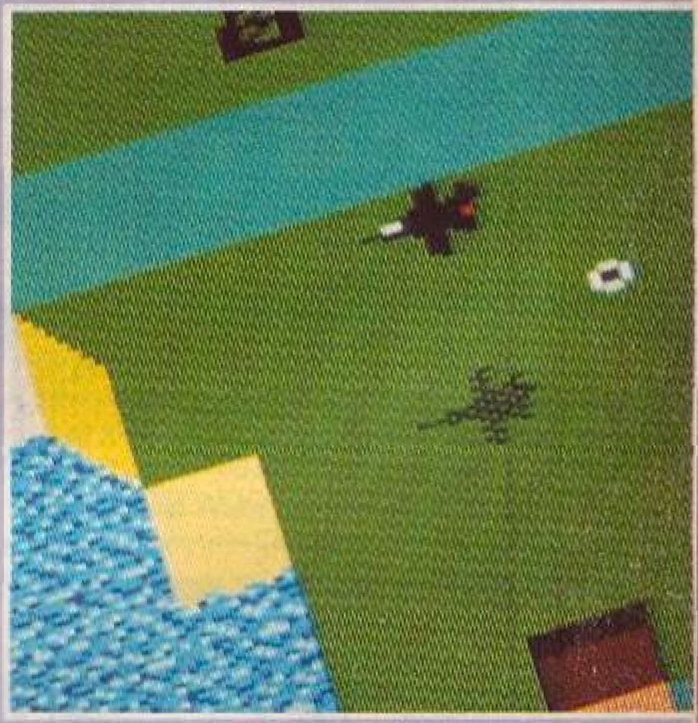
Another budget title that could easily live in the full-price department. Fantastically addictive gameplay as you manoeuvre a spaceship within the confines of a cavern system, trying to pick up power pods. Simple vector graphics but features like reverse gravity and invisible landscapes.

TOMAHAWK
Digital Integration – issue 8, Rave
£9.95 cas, £14.95 disk

The highest-flying of the flight simulators, combining both simulator and combat action. The ground and air features are all drawn with vector graphics that look very impressive. Night flying and four missions are thrown in – it's a simulation that will keep you high for days.

TORNADO LOW LEVEL
Vortex – issue 5, Rave
£8.95 cass, £13.95 disk

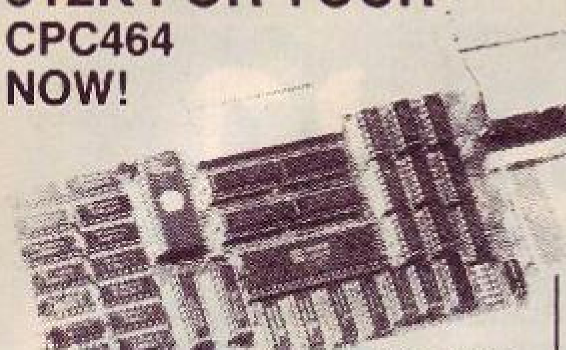
The game that is almost legendary for its fast, smooth, multi-directional scrolling. You fly around a 3D landscape in your Tornado fighter trying to bomb targets. Fly under bridges, avoid buildings, skim over the water and fly fast at high level. Still great to look at and tough to play.



It's Christmas!
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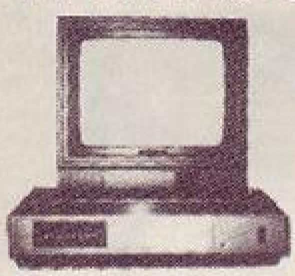
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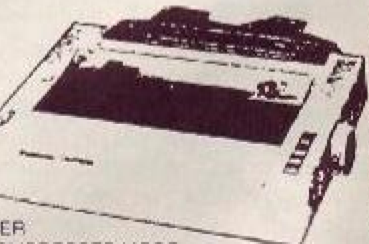
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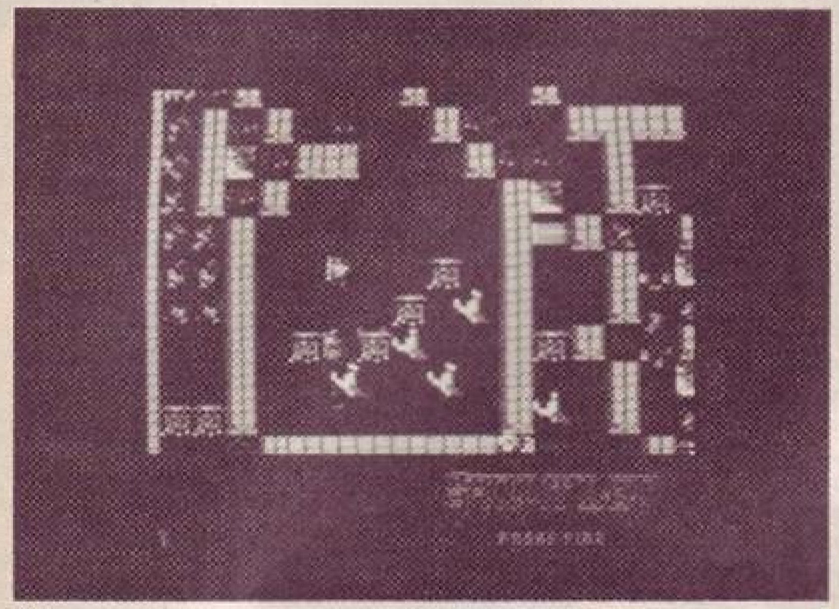
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ACTION TEST

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RAVES

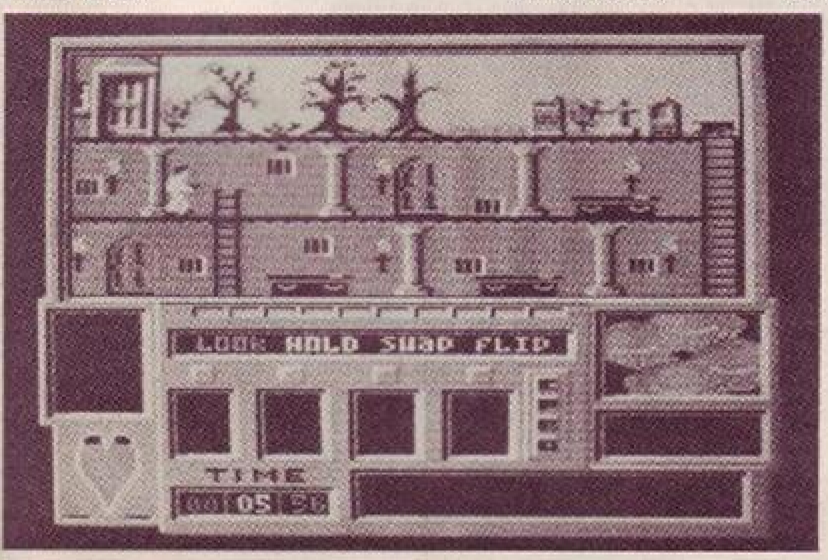
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Christmas Bonanza

You just aren't going to believe the amount of good software around this month. The software houses have obviously timed their best releases to hit the Christmas market. In our opinion they've succeeded brilliantly with a stunning Mastergame, 11 Raves and lots of other games worth a look.

The Mastergame is a real mindblower from US Gold – *Gauntlet*. It's got over 500 levels, two-player action, complicated mazes and many other features that will make it very hard to beat as Christmas number-one.

The supporting cast is just as impressive with games to suit every taste and pocket. There's a graphically superb game from Odin called *Heartland* with some fantastic scenery and lots of action. On the same pages is another superb game from Steven Crow, the author of *Wizard's Lair* and *Starquake*, called *Firelord*.

The two-player theme is resumed in *Ikari Warriors*, an all-action game of bullets, bombs and tanks. It's accompanied by a hot game from Durell, *Thanatos*. It's got lots of originality and stars you in the role of a wonderfully animated dragon.

The list of raves is seemingly endless this month. Ariolasoft has weighed in with a couple that are definitely what you'd call 'different': *Werner*, starring a German biker in some very weird pursuits, and *They Stole a Million*, giving you the chance to plan robberies.

The budgeteers have plenty on offer as well with *Terra Cognita* from Codemasters and *Back to Reality* from Mastertronic. Just to round off a bumper month there's *The Eidolon*, *Bactron* and *Avenger*.

Have a wonderful Christmas and try not to spend all your time glued to your Amstrad. Cheers!

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Rocket Ball	Strobe	98
Deep Strike	Durell	98

BACTRON

Loriciels/Activision, £9.99 cass, £14.99 disk, joystick or keys

The French in their computer games seem to have a penchant for diseases. First we had *Contamination* from ERE and now Loriciels has come up with another one where you have to fight disease from inside a patient's body. The character you control, Bactron, looks set to become yet another cute cult.

Your task is straightforward. A patient is gradually slipping into an irreversible coma. To prevent this you just have to activate a number of enzymes located somewhere in the isometric 3D screens that represent the body.

You, the Bactron, are basically a head on legs (sounds familiar!). When he moves, the legs stretch out as if he's doing a John Cleese silly walk.

The 3D screens you walk around are another indication of what good graphics the Amstrad can produce. There's excellent use of colour and shading for the various bits of scenery and some delightful creatures to make life tough. The screens are connected by doorways, and many of the rooms are divided by low fences. Also dotted around the rooms are many objects that can be pushed or pulled around to block creatures or just to get them out of the way.

The Bactron is wonderfully animated, digging a claw into objects when pulling them and blowing a blast of icy breath when you fire. This allows you to freeze the creatures for a while, giving you the chance to escape. Creatures vary from delightfully animated pairs of bouncing balls that follow set patterns, to floating, green, hairy things that home in on you.

SECOND OPINION

The 12-bar blues music that accompanies the demo is exceptional: definitely foot-tapping material. As for the graphics and animation, Loriciels has kept up its exceedingly high standards. The main character, Bactron, is one of the cutest you'll come across – the stuff cults come from.

But once I had explored the game I found there was only the music and graphics to go back to.

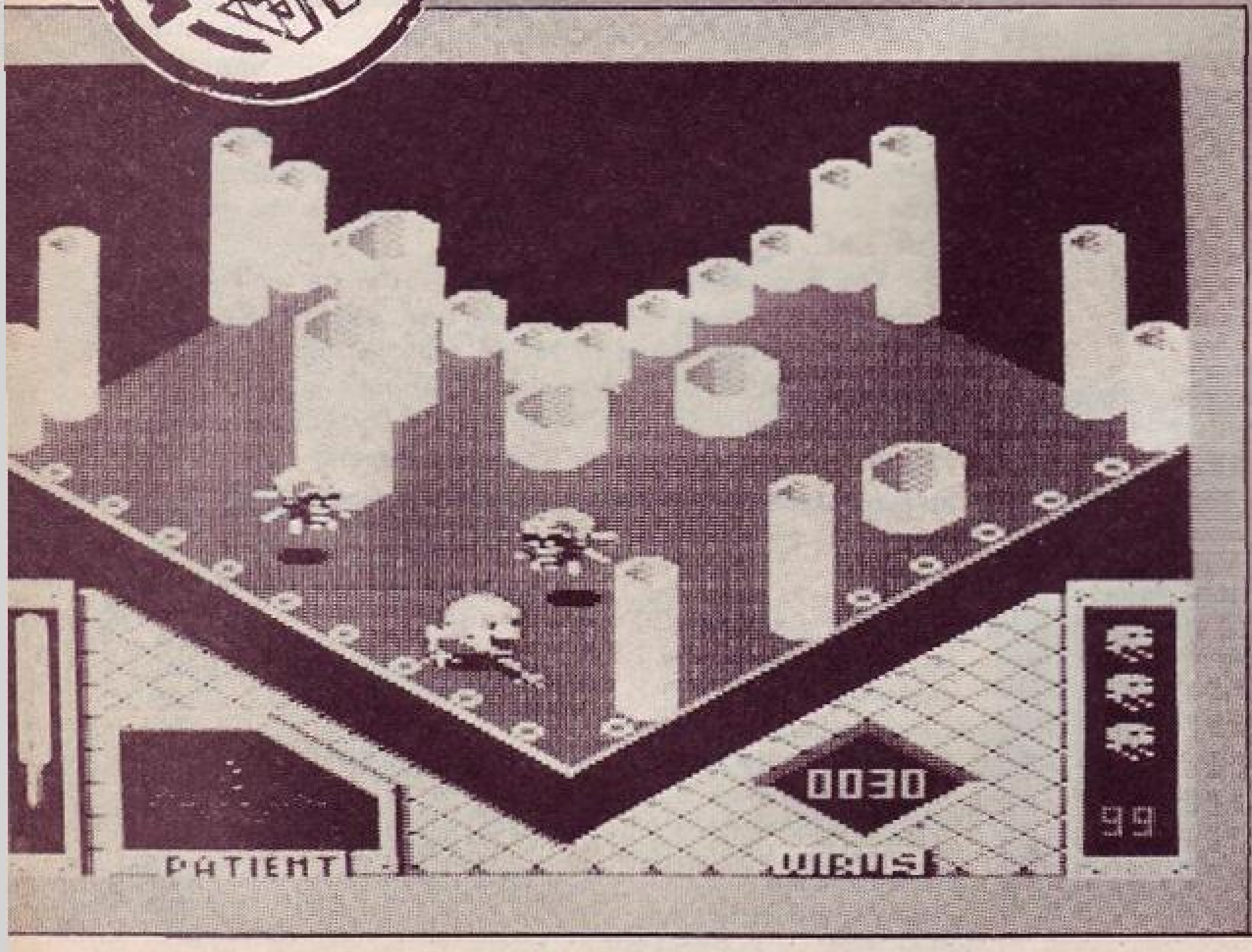
RpM

As you explore the game you're looking for small yellow cubes – enzymes which have to be activated. You battle against two problems: the time limit imposed by the patient's rising temperature, and the drain on your energy from the creatures. The cubes are activated by touching them, replenishing your energy at the same time. Watch out for blue cubes because you don't want to activate them.

Most of the time you'll rush around trying to avoid the creatures and trying to cope with your awkwardly long stride. There are problems where you have to pull or push blocks out of your path, but because you can't jump or pick things up these puzzles are very limited.

The graphics and the catchy title-screen music are the game's best features. The gameplay,however, is a bit limited. It will have you hooked at first as you explore and map it out, but there isn't enough variety in your tasks really to keep you going for long. Get it and have fun for a few days but don't expect it to challenge you for long.

BW



FIRST-DAY TARGET SCORE
2,000

GREEN SCREEN
C'est tout okay!
RpM

G O O D   N E W S

- **Great use of colour and shading on scenery.**
- **Some lovely animation on Bactron and other characters.**
- **A pretty tough game task because of the time limit.**
- **Toe-tapping title-screen music.**

B A D   N E W S

- **Appeal may fade quite fast.**
- **Control can be a little awkward.**

THE EIDOLON

Activision, £9.95 cass, £14.95 disk, joystick or keys

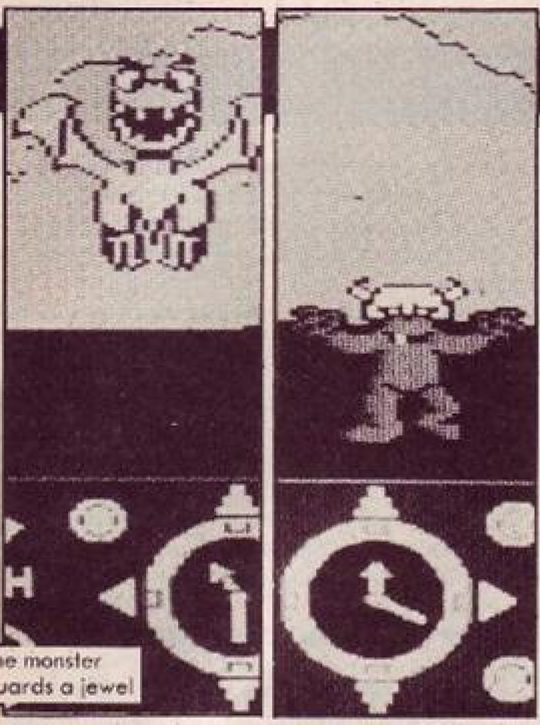
It's been a long wait for this game – you may remember a preview way back in the April issue. I'm perplexed why it took so long to finish. Waiting for the Christmas market perhaps? Despite the wait it's an excellent game that should prove popular because of the delightful graphics and originality it offers.

The Eidolon is a machine produced by a ficticious Victorian inventor: HG Wells and *The Time Machine* – that sort of thing. You control it around a cave system created by fractal mathematics, trying to get past the guardians of the game's seven levels, not to mention the other monsters you meet.

You look out from the front of the Eidolon: a view of the caves and your instrument panel. Arched tunnels in each cave system form mazes of ever-growing complication as you progress through the levels. You can move the Eidolon forward, turn it and reverse. The only problem will be catching the cave wall when trying to round corners.

The caves are created using fractals: as you approach a feature you see it in more detail, and the detail is related to the overall shape of the feature. Thus you have lines on the cave walls that continuously change their appearance as you move towards them. This creates a good movement effect.

You'll find two types of things in the



The monster guards a jewel

caves: monsters and fireballs. Monsters come in many varieties and there are four types of fireball. On each level there are three monsters, and a dragon that guards the entrance to the next level. The dragon has a barrier in front of it, which has to be deactivated by a jewel – and the jewel is obtained by killing one of the other three monsters.

Each monster guards a jewel of different colour. They are killed by shooting fireballs at them, but you'll have to use the right one of your four types. Red fireballs are simple and destructive. Gold ones replenish your energy when picked up. Blue ones give you more time to complete the level when collected and freeze a monster for a time when fired. Green ones transform a monster into another type, but you don't know whether it will be more or less dangerous. Fireballs can be found just floating around for you to collect, but you'd better watch out for the red ones or they'll do you some damage.

The monsters have different strengths. The weakest, a rotofly, can be destroyed with one shot. Their behaviour patterns are different as well. Puffer birds can spit fireballs back at you. There are also winged Biter birds, one-eyed Bottlenecks and Greps. But by far the most awesome are the dragons; when you encounter a dragon you will always have a tough fight.

Each level loads separately from cassette but it doesn't take long. The graphics are excellent, the fractals giving a good impression of movement and the monsters and fireballs providing the colour and action. The monsters are very nicely animated: waving necks, flapping wings, chomping jaws and all sorts of other mannerisms. The ever-growing complexity of the caves and the increasingly menacing monsters will keep the challenge going through the levels in what is a very impressive piece of programming.

BW

FIRST-DAY TARGET SCORE
3,000

GREEN SCREEN VIEW
Very ... umm ... green!
RpM

SECOND OPINION
Here is a game with very clever, even technically brilliant, programming techniques that give the impression of being stuck inside a complex underground cavern system. The graphics are reasonable with ample sound effects. But for some reason Eidolon *didn't really appeal to me – it should have, but it left me cold. I suppose I could give it one more go...*
RpM

G O O D   N E W S

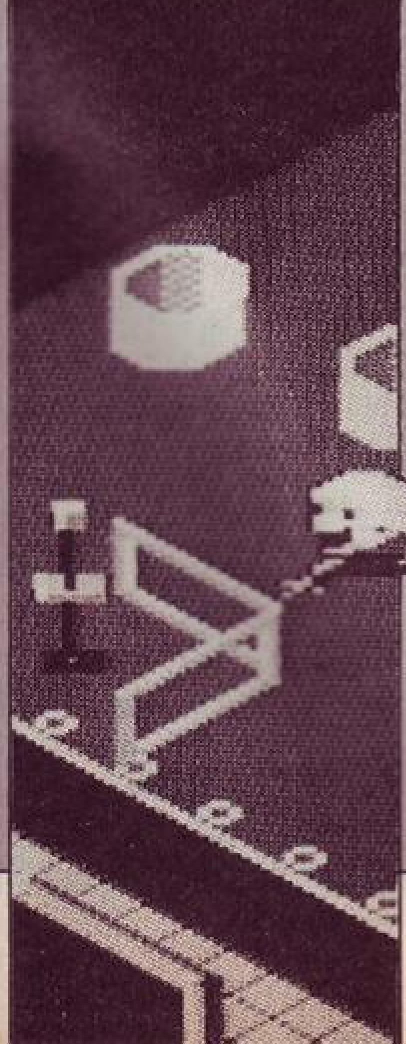
- ▶ **Good use of fractals in caves.**
- ▶ **Wonderfully animated monsters.**
- ▶ **Very original game concept.**
- ▶ **Complicated mazes to explore and map.**
- ▶ **Seven levels that get tough.**

B A D   N E W S

- ▶ **Basically just a game of search and kill.**

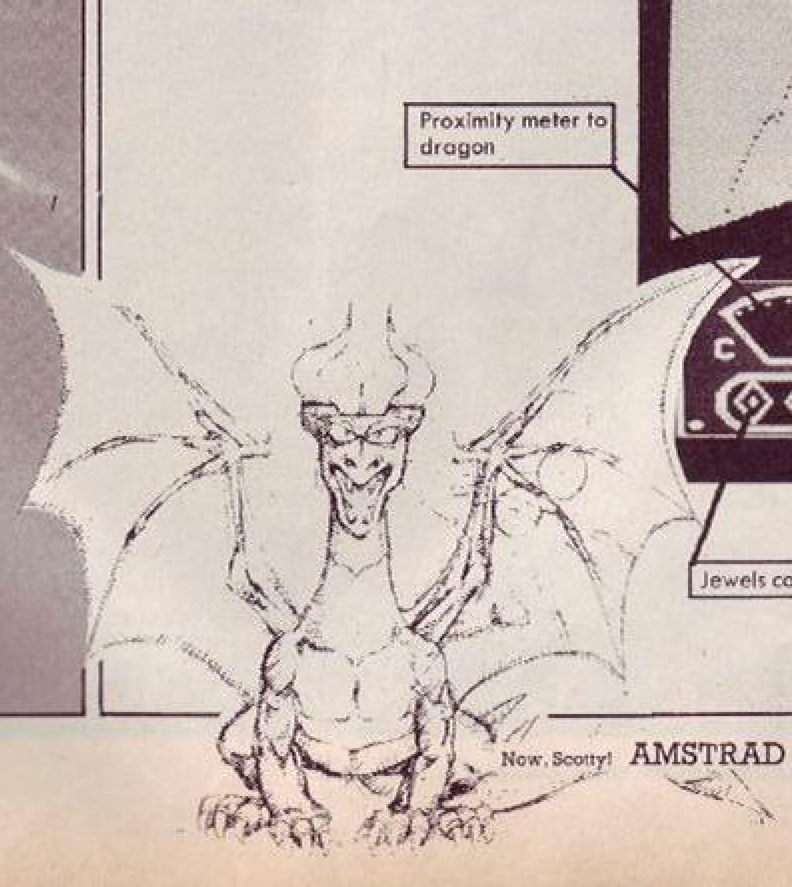
GRAPHICS	87%
SONICS	60%
GRAB FACTOR	87%
STAYING POWER	85%
A A RATING	86%

GRAPHICS	92%
SONICS	82%
GRAB FACTOR	86%
STAYING POWER	73%
A A RATING	80%









FIRELORD

Hewson, £8.95 cass, £14.95 cass, joystick or keys

This is the latest game from Stephen Crow, whose past games include *Starquake* and *Wizard's Lair* (Amsrad conversion by Keith Prosser). It's another arcade adventure that follows the pattern of Crow's previous games: large, pretty and full of fast action.

The game takes place in the land of Torot, which extends over 500 screens. It's peopled by ghostly characters who wander the streets. The human inhabitants hide in their houses, which you can enter to trade with them.

You control a knight who looks and walks like Sabreman from *Knight Lore*. Don't worry, though, because that's the only similarity between the two games.

Your task is to find four charms. With them you can persuade the evil queen to part with the Firestone, which she has used to curse the land. The charms are in the possession of four characters, so first you have to find out where they are and then how to get hold of them. To start with you'll have plenty on your hands just staying alive.

Torot has four types of scenery: town, village, quarry and forest. In all sections you'll find plenty of danger. Nearly every screen has ghosts that materialise and drain your energy if they touch you. You can shoot them if you've found an enchanted crystal. Watch the bar gauges for both energy and shooting power: if they run out you lose a life or shooting ability.

There are more sinister dangers that can take several shots to destroy; a particularly nasty thing steals your crystal and leaves you defenceless. And there are static obstacles: flames which kill on contact and ice flames, which can be defrosted to clear the way. There are ways to destroy or get around all the obstacles – you just have to work out how.

SECOND OPINION

A lot of running around is necessary, collecting items and shooting the bad guys. This may be enough for most players, but the added need to barter with some of the strangest characters will challenge the rest. It's very playable.

RpM

As you explore you find houses with open doors that you can enter. The screen changes to a trading screen, where you can remain as long as you have trading power. This is indicated by another gauge; if it runs out you get thrown out. While inside a house you can trade an object you're carrying for something the occupier has, such as information, directions, supplies or magic objects.

Trading is extremely important in staying alive and getting around the game. With the right objects, you can even teleport. You can cheat some characters out of their possessions but you'll have to be very fast. A successful trader can make the game a lot easier; a bad trader has little hope of victory.

The graphics are detailed and fast-moving but not particularly colourful, while the sound consists mostly of little explosions. The strategy and adventure elements have been nicely mixed with the shooting and exploration to provide a tough challenge, but one which is easy to get into. This can only enhance Steve Crow and Hewson's growing reputation.

BW

FIRST-DAY TARGET SCORE
20%

G O O D N E W S

- **Over 500 detailed locations.**
- **Rapid action with shooting and exploring.**
- **Trading introduces good element of strategy and adventure.**
- **A tough challenge but easy to get started with.**
- **Nice features like stealing objects and ice flames.**

B A D N E W S

- **Use of colour isn't that good.**

HEARTLAND

Odin, £9.95 cass, £14.95 disk, joystick or keys

The Odin people have been very quiet since releasing the disappointing *Nodes of Yesod* and it's not hard to tell why when you see their latest. It's got some very impressive graphics and lots of very fast and addictive action.

I'm afraid it's a multi-load game, but it's well worth waiting for the five different graphic levels to load – if you can get far enough in the game, that is.

SECOND OPINION

Heartland *is a superb game with astounding graphics and animation. The gameplay is fantastic, and will keep you at it till you drop. The sheer size and complexity of the game will mean many sleepless nights, I'm afraid. If you buy nothing else for Christmas, at least get this!*

RpM

The action revolves around your attempt to recover pages of a book – they are lost in five different zones. In each zone you must find two pages before you can venture on to the next.

You take the role of jolly little fellow in a red coat, clinging tenaciously to a red top-hat. In every zone he starts by his bed, and that is is where he has to return after collecting two pages.

The screens are all two-dimensional, viewed from the side. Most consist of a floor or platform, different in each zone. Some screens have gaps: fall into them and immediately end the game. There's a wide variety of scenery, including gardens and ornamental material in the first zone. As you explore you'll notice that Mr Red-Hat passes in front of and behind scenery – it's a very pleasing environment.

You can walk or jump left and right and also enter doorways or lifts. You have to turn to face doorways, which can take you 'into' or 'out of' a screen. Obviously you have to face in the right direction to use them – so you need to notice if you passed in front of or behind the door frame. You enter lifts in the same way, but they show a separate screen where you scroll to another floor.

There's a time limit for completing the task; the game ends when time runs out, energy runs out or you fall down a hole.

Energy is drained by other characters in the game. They appear in pairs on nearly every screen. You can shoot them with three types of missile: hats, daggers and fireballs. Fireballs kill them instantly, daggers take two shots, and hats take three. You can pick up missiles when they appear floating around the screen.

A number of other objects also materialise on the screen, with a number of effects when you contact them: they can drain energy, replenish energy or give you limited immunity to energy loss. After a bit of practice you should find little trouble with energy – the real enemy will be the time limit and the complicated nature of the map.

On the second level – if you get through – you'll notice some dramatic changes. The scenery changes to a space base, the two other on-screen characters have changed from stooped old men to space-suited astronauts, and because of the low gravity you can leap way up into the air.

You'll really need a map too. Those evil programmers have varied the locations of the missing pages, so that there's always lots of exploring to do. It's so easy to get lost.

The graphics really are outstanding: lots of detail and colour, and five very different types of scenery for the five levels. Gameplay is also excellent: plenty of exploring to do, lots of blasting and things flying around screen. Getting through doorways can be tricky sometimes, but otherwise you move and jump well. There's also a nice title tune, but unfortunately it doesn't play throughout the game.

This is a right little cracker that shows the Amstrad at its best.

BW

FIRST-DAY TARGET SCORE
Two pages

G O O D N E W S

- **Five different levels and lots of screens.**
- **Fast blasting action.**
- **Superb use of colour graphics.**

 Love is like...

Types of Services

SCALES Trade an object

PORTCULIS Pay a toll to pass through the house

SIGNPOST Find out where you are

SUPPLIES Buy food, weapons or trading tokens

TIMESCAPE Cast a spell to a magic place

INFORMATION Find out how to accomplish your quest

RIBBONS Colour distinguishes similar characters – Green Witch, Red Witch etc.

CHEAT Select this and you may not have to surrender the objects that you are paying with. Get caught and justice will be swift.

EXIT Select this icon to leave the house.

OFFER When a deal is set up the occupant displays his offer here. In this case the Dragon is offering the Timescape spell in exchange for a bag of gold and a candlestick.

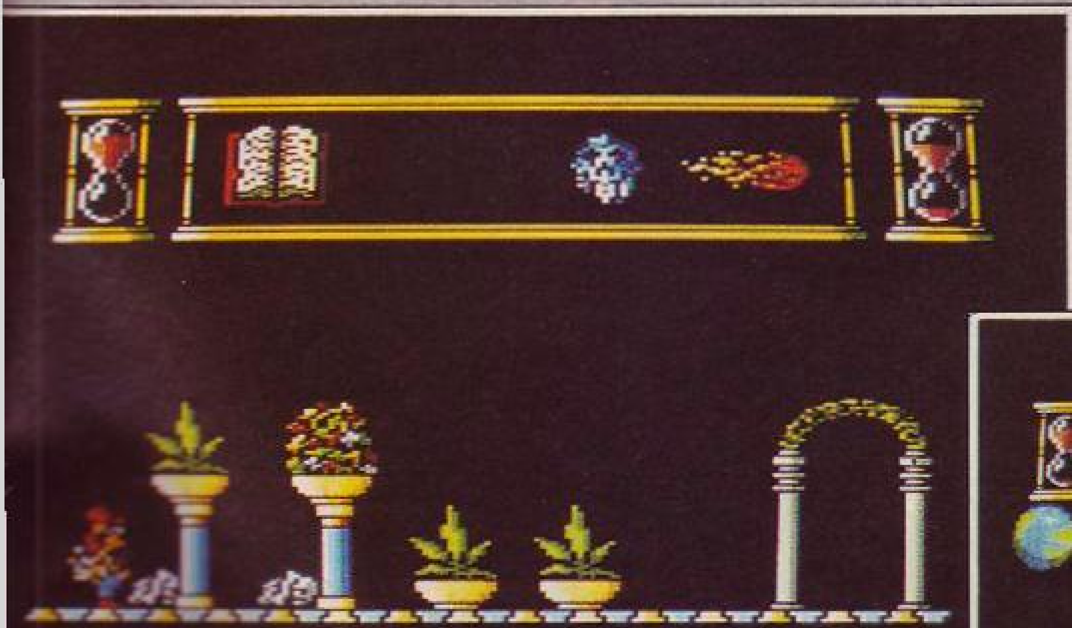
GREEN SCREEN VIEW
All is visible.
RpM

GRAPHICS	77%	
SONICS	55%	
GRAB FACTOR	83%	
STAYING POWER	86%	
A A RATING	84%	



A gallant knight battling the odds

AA RAVE



AA RAVE



More of the delightful scenery

You swagger around in a top hat

► A tough task requiring speed and mapping.
► Variety of weapons and characters.
► Great features like the reduced-gravity jumping.

B A D N E W S

► Multi-load won't please cassette users.

GREEN SCREEN VIEW
Perfect!
RpM

GRAPHICS	93%	
SONICS	67%	
GRAB FACTOR	93%	
STAYING POWER	89%	
A A RATING	92%	

the head of Apollo.

MASTERGAME

GAUNTLET

US Gold, £9.99 cass, £14.99 disk, joystick or keys

The 'official' conversion of the arcade smash is here and you won't believe there's so much in it. There are over 500 levels and 3,000 screens of action. You'll probably never finish all the blasting and searching (unless of course you poke it!) For sheer addictiveness and hectic gameplay it's a winner for Christmas.

You can play the part of one of four heroes (one of them's a heroine, actually): Thor the warrior, Thyra the valkyrie, Merlin the wizard and Questor the elf. Only two can play simultaneously, but that still gives some excellent two-player action where co-operation is everything.

Each character has different powers and is good or bad in particular abilities. For instance Thor has excellent fighting skills but lacks magic, whereas Questor is only a moderately good fighter but possesses strong magical powers.

You can also choose to have a one- or two-player game from the delightful title screen showing the four heroes. Once you've chosen, it's on to the first level of the game.

Action takes place in a smooth-scrolling window. In a two-player game, both have to stay inside – disagreements could cause battles off the keyboard as well as on it. Although at first the graphics look bare, you'll soon encounter hordes of dangers and a variety of interesting levels.

On each level there is at least one exit that takes you to another level. Some exits will take you more than one level forwards – whichever the first player takes, the second is forced to follow.

SECOND OPINION

Fantastic true two-player action is possible. This game's phenomenal size and addictiveness will keep you at it till next Christmas. Excuse me while I get back to the game...

RpM

Each level is a different sort of maze: within it lies a host of features.

There are of course thousands upon thousands of nasty monsters. Generators emanate them in six horrific varieties. Some you need to shoot with the weapon you're carrying, others are better dealt with by hand-to-hand combat, and some you just want to steer well clear of. Some can shoot, and others just enjoy getting to grips – but all of them home in on you. They drain your energy and if you get in a tight spot it can disappear fast.

Weapons can also be dangerous to your side: after a few levels you can hurt or stun your playing partner with your own shots.

Other little surprises include levels with a potion bottle that gives extra powers to your armour, magic, shooting and fighting.

Monsters and generators can be destroyed and the damage they do to you can be restored if you can find items of food and drink. Even then you have to watch out because some things are poisoned.

Potion bottles and keys also come in very useful. The potions can be used magically to destroy large numbers of monsters and generators – in the right hands, that is. The keys open doorways to objects and important areas of the mazes.

Treasure chests, dotted around all levels, and can be collected for points.

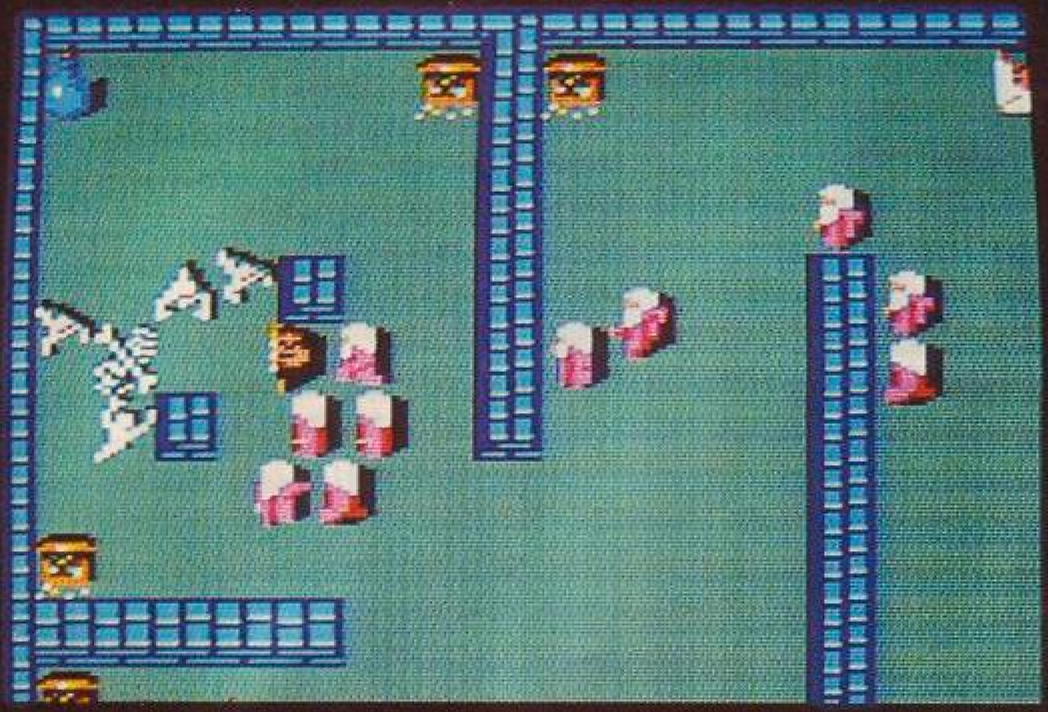


Thor battles gamely against the horde

A monster generator

Here they come again – monsters!

Food



You won't believe the number of monsters you'll have to fight

There are also special levels where you have to collect as much treasure as possible within a time limit and escape. Rarer objects are an amulet that gives invisibility, walls that crumble when shot, traps that make walls disappear and transporters that move you to the nearest other transporter.

On cassette the game comes as a multi-loader, but this could be an advantage. That's because US Gold has plans to release expansion cassettes next year with hundreds of new rooms on them. In fact, the company is offering you the chance to design them.

GREEN SCREEN VIEW
On certain screens the background gets lost. But who cares? The game's brilliant!

RpM

Some levels are much tougher than others, but there's tremendous variety in the hazards you face. What doesn't change is the need for plenty of blasting and running around – great fun.

It's best with two players: the element of co-operation really brings the game alive. As a one-player game it's pretty nifty too, although it's much tougher. The graphics are small but perfectly formed, and with so many different levels you'll never get tired of them.

BW

Thor

Treasure chest

Locked door



FIRST-DAY TARGET SCORE
10,000

GOOD NEWS

- **Over 500 levels and 3,000 screens.**
- **Some levels have fantastic designs with plenty of complications.**
- **Endless hordes of enemies to blast.**
- **Lots of features like treasure rooms, special powers and teleporters.**
- **Superb two-player action that demands co-operation.**
- **Really captures the excitement of the arcade version.**

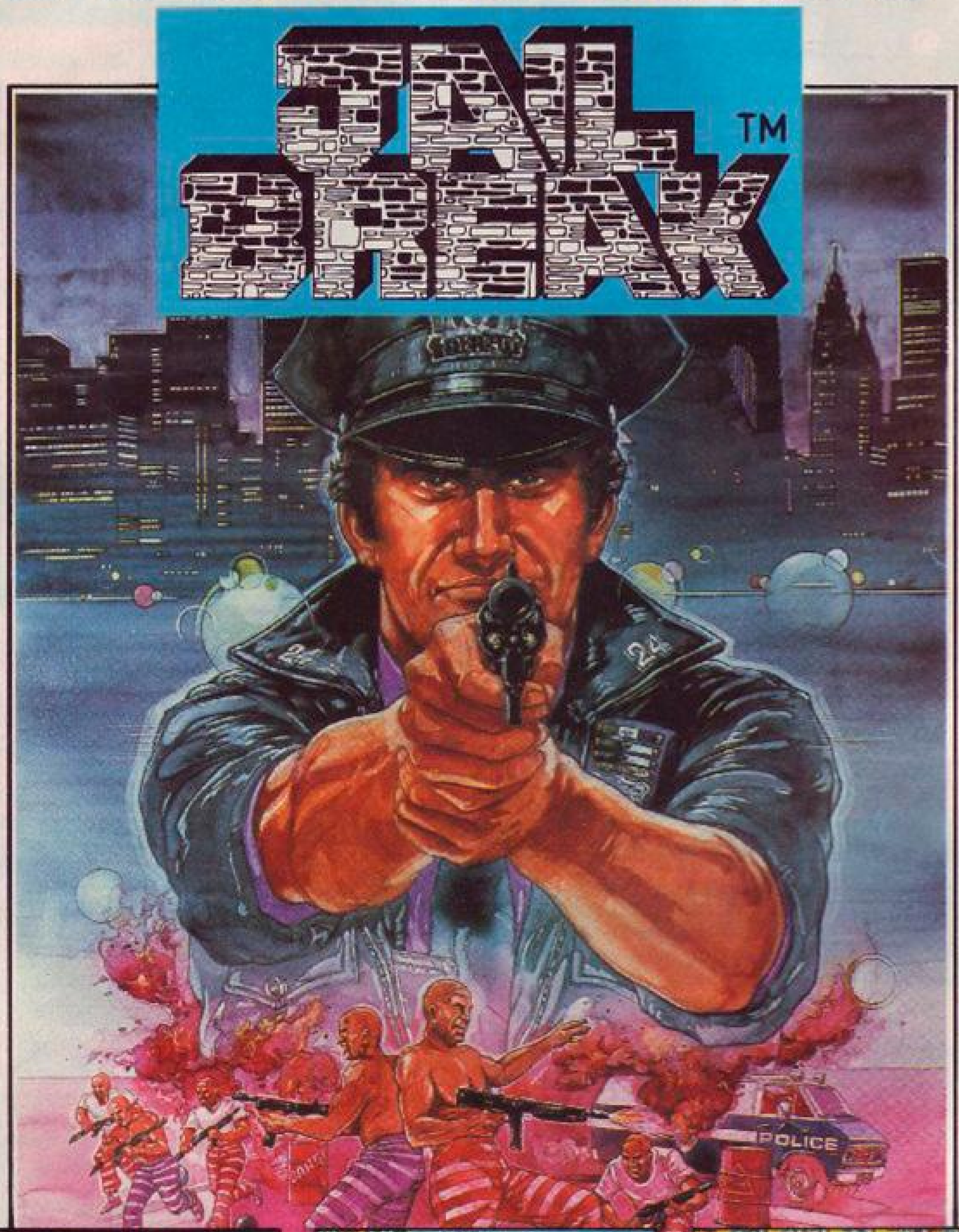
BAD NEWS

- **The backgrounds are a little plain.**

GRAPHICS	88%
SONICS	65%
GRAB FACTOR	94%
STAYING POWER	92%
AA RATING	93%

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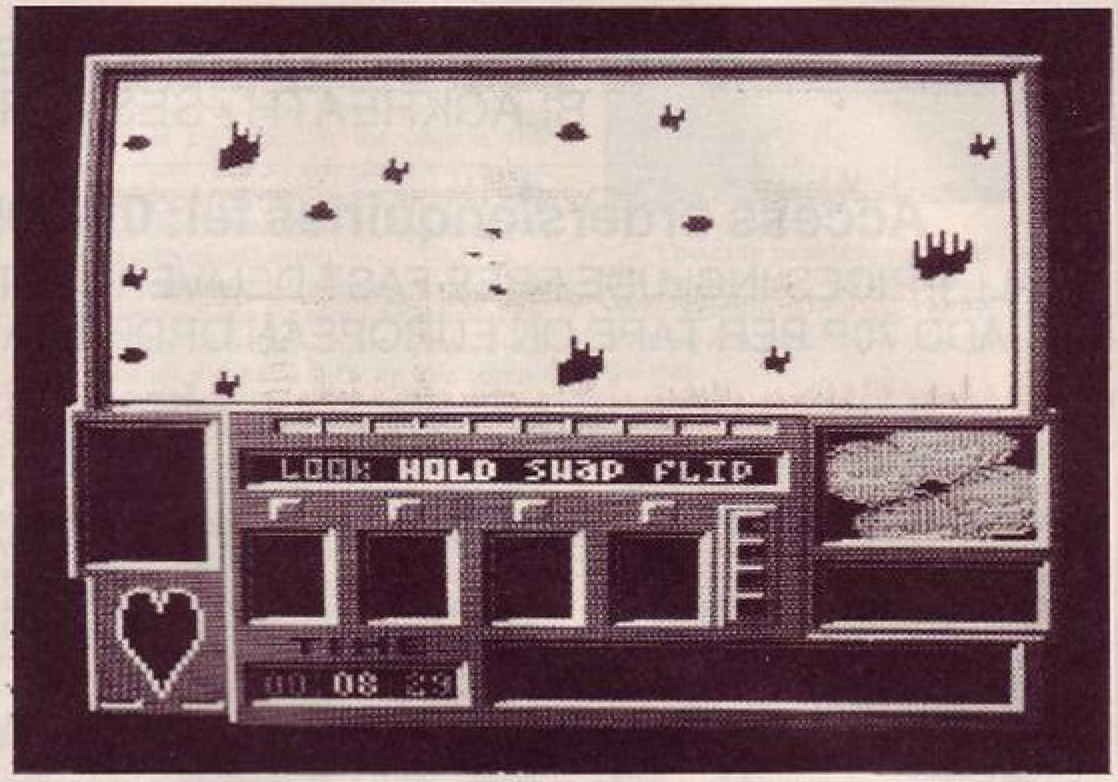
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TIMETRAX

Mind Games/Argus, £9.95 cass, joystick or keys

Argus Press seems to be getting its act together at last. First its Quicksilva label produces a couple of decent games and now Mind Games has come up with one as well. It's a derivative of *Impossible Mission* but with plenty of new features to make it stand out.

> **SECOND OPINION**
>
> *Another program with decent music played throughout the game. Your ears are certainly in for a treat with this one. So are your eyes: very colourful and detailed graphics. I was rather disappointed with the rest of the game, though. Dying too many untimely deaths eventually leads to frustration and boredom. Will appeal to* Impossible Mission *fanatics – I am not one of them!*
>
> **RpM**



Your aim is to return eight items to different characters in the game and to close off portals in time by creating a cosmic pattern out of four rune tiles. There are only 21 screens in the game but these are spread over seven time zones and contain many things.

Hidden in the time zones are eight characters, to whom you have to give a particular item, and 15 rune tiles that can be used to cast spells and to create the pattern that brings the game to an end.

The screens are all two-dimensional and split into three floors, with a status panel beneath. The floors are connected by ladders or other types of handhold, depending on the zone you're in.

The time zones are connected by portals, which appear as flashing squares. When you walk into them they flip you to another zone. The connections between zones run to an ordered timetable: by looking at a table and the game clock you should be able to tell when a portal is going to appear on the screen you're on and where it will take you.

Each screen has a detailed background on which there are many objects relevant to the time zone. These include furniture, ornaments, machines and containers which you can search for objects. Up to four objects at a time can be carried and ten runes, but you'll have a lot of searching to do. When you've got an object you can try to trade it with one of the eight characters.

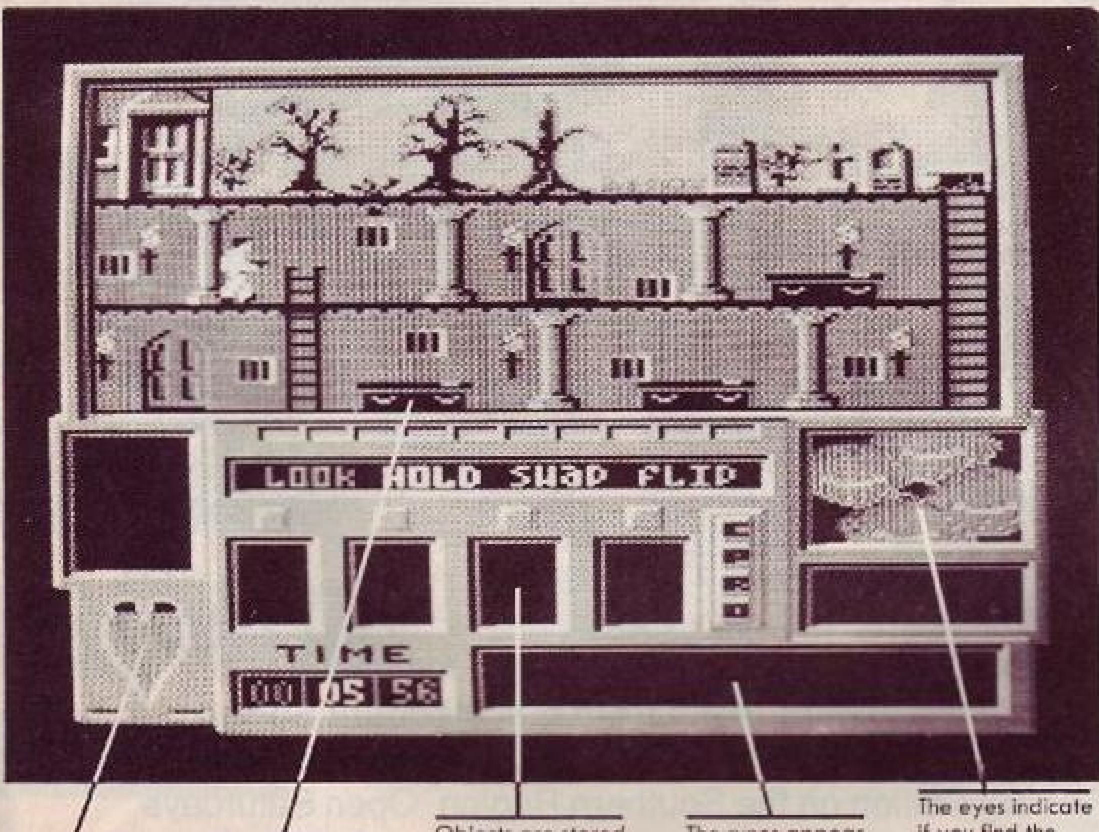
They are found throughout the time zones and if you offer them their correct item they'll force you to deal with them. If you offer them something they don't want they'll just refuse to deal. There are other objects as well that are useful including weapons, scrolls, potions and keys. The weapons are specific to a time zone, the scrolls allow you to cast one of ten spells (if you have the right runes), the potions restore energy, and the keys open chests.

To get between the three screens in a time zone you use connecting doors, but there are obstacles in some places that you can't get past. If you hang around on screens monsters will appear that drain your energy when they touch you. They can be killed with a weapon but you'll have to find the supplies of ammunition first. You can also jump around but this doesn't usually achieve much.

The graphics are pleasing, as is the excellent soundtrack that plays throughout the game. The gameplay is fairly simple – just search everything – but the addition of characters to trade with, portals and monsters makes it much more interesting.

Because of the lengthy instructions, awkward menu system and need for a lot of searching, the game takes some time to get into, but once you've done that it presents an intriguing challenge.

BW



Your energy — Furniture to search — Objects are stored here — The runes appear here — The eyes indicate if you find the cosmic pattern

FIRST-DAY TARGET SCORE
Jester

GOOD NEWS

- ▶ Nice multi-coloured screens.
- ▶ Plenty of objects and characters.
- ▶ Good strategy and puzzling element.
- ▶ Excellent soundtrack during play.

BAD NEWS

- ▶ Takes time to get into.
- ▶ Relies on random searching element.

> **GREEN SCREEN VIEW**
>
> *Could have been better.*
>
> **RpM**

GRAPHICS	78%
SONICS	88%
GRAB FACTOR	68%
STAYING POWER	77%
A A RATING	74%

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BACK TO REALITY

Mastertronic, £1.99 cass, joystick or keys

Steve Elward is a name that Amstrad users will quickly come to know, because having written the very enjoyable game *Obsidian*, he's followed it up with a game in a similar style. The difference is that it's being released as a budget title and consequently is much better value.

Obsidian was set aboard an asteroid that was going to destroy the Earth. It's a case of déjà-vu, except that this time the asteroid is from another dimension and will test your powers even more. You control a spaceman trapped inside the asteroid. To survive and save the Earth from destruction you have to prove your intelligence to an alien race by completing several tasks.

> **SECOND OPINION**
>
> Obsidian II *at a quarter of the price? Can't be bad. In my opinion it is almost better than* Obsidian. *The graphics have that metallic look to them that is so popular, and the choice of colour certainly goes a long way to enhance the effect. The devious puzzles will keep you going for many a day. Just because it's a budget game, don't write it off; it surpasses much off the stuff that is thrown on the market at £8-plus.*
>
> **RpM**

The tasks involve creating some anti-matter, gaining immortality and then combining matter and anti-matter elements. All this is very tough and you need to perform many actions, all in the right order. The asteroid is composed of a series of very colourful and well designed caverns that twist into contorted arrangements.

You can walk around, slowly, or fly – much faster but uses up your precious fuel reserves. When the fuel runs out you lose one of five lives. The other way you can lose fuel is by touching the objects that move around most of the game's caverns. These follow fixed movement patterns both vertically and horizontally but can be avoided with good timing.

To complete the tasks set, you need to use the many boxes located on most of the screens. There is one object within each. To pick it up you have to fly up to a contact underneath the box and press Fire. If you're already carrying an object it will either be swapped with the one in the box, or combined with it. This is how you complete most of the tasks, collecting the resulting object from the box to take it on to the next stage.

There are a large number of screens, objects and dangers, so getting very far with the game may take a little time. However, the author has been kind enough to make the initial tasks involve objects that shouldn't take too long to find. That, combined with the hints in the instructions, should help you get into the action without too much difficulty.

You can't collect objects from all the boxes, and some of them may seem to have no purpose. However, if you hover underneath them with the fire button held down they replenish your energy. This is essential in the initial part of the game before you achieve immortality.

The action is very similar to that of *Obsidian*, but don't let that put you off. The tasks are different and will provide a whole new challenge even if you do have the first game. Besides that it's got a budget price-tag and some excellent graphics.

> **GREEN SCREEN VIEW**
>
> *Most screens are clear; however, there are a few colour combinations that let it down.*
>
> **RpM**

The only problem you might have with it is the control of the spaceman, because it takes practice to get used to his flying and walking and particularly changing between the two.

BW

FIRST-DAY TARGET SCORE
500

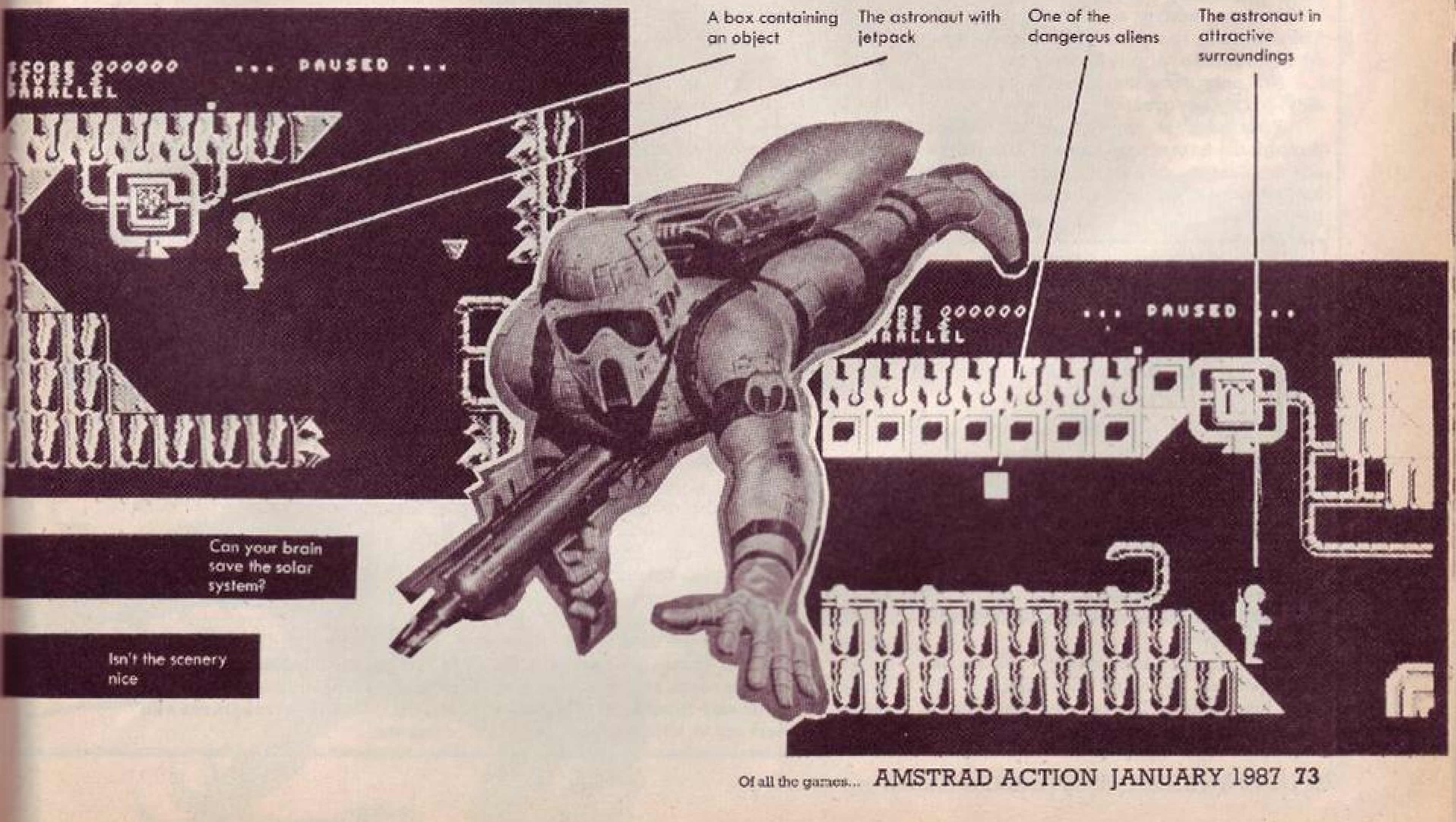
GOOD NEWS

- ▶ Very nice graphics and use of colour.
- ▶ Large, complicated playing area.
- ▶ Many tasks to complete and objects to use.
- ▶ Just as good as *Obsidian* but cheaper.

BAD NEWS

- ▶ Control can be tough to get used to.

GRAPHICS	79%
SONICS	52%
GRAB FACTOR	78%
STAYING POWER	79%
A A RATING	81%



Can your brain save the solar system?

Isn't the scenery nice

IKARI WARRIORS

Elite, £8.95 cass, £14.95 disk, joystick or keys

Elite is still churning out those arcade conversions, and this one's a real classic. Not only does it feature some magnificent graphics but a great two-player option as well. The game is basically a *Commando* derivative and features the same sort of gameplay but with lots of additional action.

You won't need to worry about the scenario because the action just entails blasting your way through endless hordes of the enemy. Like *Commando* it takes place on a downward-scrolling screen, which is smooth and packed with jungle graphics. These include various bits of vegetation, swamps, bridges and enemy strongholds.

As in *Commando* you are in control of a soldier who's armed with both gun and grenades. Both weapons can be used against the soldiers who try to kill you, and the grenades can also blow up buildings, tanks and helicopters. The explosions can be very spectacular, particularly when a building goes up taking surrounding soldiers with it.

When buildings and green-uniformed soldiers are destroyed they leave behind various supplies that you can pick up. These provide bullets, grenades, fuel and bonus points – but you shouldn't run out of these very easily. The enemy fire back with bullets, grenades and shells. Avoid them, and be careful not to run into the soldiers themselves.

Charging around delighting in the mayhem you can cause, you'll come across some enemy tanks just standing idle. Hop into one and you can trundle around crushing enemy soldiers and shelling wildly. In the tank you're invulnerable to enemy bullets but watch out for grenades and shells, which will force you to get out of the tank before it explodes. You'll also have to abandon it if it runs out of fuel or reaches an impassable stretch of water.

SECOND OPINION

Ikari warriors comes top of my list for this style of game. The graphics, explosions and size of game area will keep you hooked for weeks. What makes this game so special, though, that two can play simultaneously. It is actually possilble to grenade your fellow man – so if you feel your aide is getting too far ahead, lob one at him.

RpM

The enemy aren't without special weapons either. Their tanks will hold you up, and a massive helicopter is very dangerous because it spews bullets everywhere. Of course it's only a matter of time before you bite the dust – but there's a feature that may make the time a lot longer than you think.

The two-player option is fantastic because both players appear on screen at once and have to battle through the jungle together. They can help each other a lot because firepower is doubled. There are drawbacks, though: your own grenades can kill the other player, but your bullets and tank can't. It's great fun following the tank across the bridge as it squashes everything in the way.

The gameplay isn't much different from *Commando*, but improvements are the superb graphics, features like the tanks and of course that great two-player option.

This is real mindless addiction – you'll love it.

BW

FIRST-DAY TARGET SCORE
25,000

GOOD NEWS

- ▶ **Great graphics and scrolling.**
- ▶ **Terrific explosions – large and loud.**
- ▶ **Two-player option is marvellous.**
- ▶ **Nice features like tanks and helicopters.**
- ▶ **Very addictive, mindless gameplay.**

BAD NEWS

- ▶ **Similar gameplay to *Commando*.**

THANATOS

Durell, £8.95 cass, £11.95 disk (£9.95 direct from Durell), joystick or keys

It's not often that the dragon gets to play the hero. It's usually being lanced by a good knight for offences against the innocent. The dragon in this game even gets the girl, who rides quite happily on its neck.

Not only does the game have originality, but it's got great graphics too.

Your task is to conduct a maiden through the hazardous stages of a horizontally scrolling cross-country flight, dropping her off occasionally so that she can complete a task.

SECOND OPINION

Thanatos, the Greek word meaning death, is certainly full of it. You take the form of a wonderfully animated dragon whose main object in life is to burn humans, rescue virgins, eat witches and avoid doves (?). If you think that's a strange combination, wait till you see the on-screen action – it's full of non-stop nail-biting fire-breathing madness. Buy it, you'll love it.

RpM

The dragon is a large character, superbly animated by many nice touches. He flaps his wings to fly, swishes his pointed tail around, lands and picks things up with his claws, moves his head and jowls as they blast fire everywhere. In fact it's a fantastic-looking dragon that can do all sorts of things including turning round in mid-flight.

Taking the role of the dragon, you fly against a background where bands scroll at different speeds to give an excellent impression of movement. The backdrop changes as you fly along: rocky outcrops, caves, water with boats, cities with many different buildings. All this background detail doesn't play any part in the game, but it looks good.

You have to fly off in search of a woman, who will climb up onto your neck. You then have to fly on to collect a book of spells, finally arriving at a cauldron. The woman, book and cauldron are all to be found within the walls of a castle. You have to walk up to it and burn down the gates to get in.

You can vary speed and height as you fly across the land, or even walk along the ground. Your physical exertions affect your heartbeat; if it gets too rapid you explode in a big cloud, ending the game. The heartbeat can also be speeded up by the many dangers encountered.

The hazards come in waves and they all try to inflict physical damage. Little human figures run across the bottom of the screen and throw rocks and spears at you. Birds swoop in and divebomb. The more sinister spiders try to knock the maiden off your back, then descend to the ground and crawl after you. There are also the dreaded killer bees, which swarm around you.

Most dangers can be dispelled by your fiery breath, but this also increases heart rate. Another method is to pick up creatures and drop them to their deaths, or to drop rocks on them.

The three things you have to stop at are all contained within the walls of a castle. Burning down the doors to get inside uses much of your fire supply. To replenish it you have to retrace your flight to where a witch is tied between two stakes. A knight will come to defend her, but having bumped him off you can eat the witch to replenish your fire.

The graphics really are something else: lots of large animated characters against a lovely scrolling background. The gameplay can get boring on the early levels, but there are higher ones to challenge you – survival is a continual battle.

It's a wonderfully original concept that will delight you for hours.

BW

FIRST-DAY TARGET SCORE
1,000

GOOD NEWS

- ▶ **Large, well-animated creatures.**
- ▶ **Good scrolling backgrounds.**
- ▶ **Lots of different creatures and dangers.**



Blam, blam, xaboom – yeeee-ha



GREEN SCREEN VIEW

Looks chunky but is playable.

RpM

GRAPHICS	94%
SONICS	63%
GRAB FACTOR	94%
STAYING POWER	88%
A A RATING	91%

► Bursting at the seams with originality.
► Gets very tough on higher levels.

B A D N E W S

► Gameplay can get boring on lower levels.

GREEN SCREEN VIEW

How did they manage five perfectly clear colours in Mode 1?

RpM

GRAPHICS	94%
SONICS	62%
GRAB FACTOR	91%
STAYING POWER	87%
A A RATING	89%



And I'll huff, and I'll puff, and I'll singe your bum



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MEXICO '86

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ZUB

Mastertronic, £2.99 cass, joystick or keys

Not what you'd call the most intellectually stimulating game title – but then it's the name of the main character, the planet and just about everything else in the game. Your job is to get Zub back to Zub by way of ten planets and their teleport systems.

The game is superbly presented. A great title page gives way to a bogglingly original options screen: several menus scroll busily in simultaneous windows – a marvellous effect. Once you've read through that lot you can enter the game itself. You've got quite a straightforward task in concept, but it's difficult to execute.

As space-suited Zub, you appear on a planet surface and can walk left and right, and jump. Zub is nicely animated and the screen scrolls with him wherever you go. If you go too far left or right you run into a forcefield, blocking your way and draining your energy.

Above the ground are platforms just big enough to stand on – you can jump up on to one. Crouching down, you can then move the platform until it is underneath another one and leap up to it. Carry on doing that until high enough to be transported off the planet.

There is always more than one teleporter platform, though; you'll have to experiment to find out which takes you where. You arrive on the surface of the new planet and have to make your way up to the teleporter again.

Your progress into the air doesn't go unhindered: security droids patrol each planet. These come down from above the teleporters and home in on you. They drain your energy when they touch you and try to knock you off the platforms. Energy drain is shown by an enlarged Zub at the side of the screen, which gradually turns into a skeleton – very tasteful.

SECOND OPINION

I found this game both highly addictive and very frustrating. No matter how hard I tried, I just couldn't get to level four. Some highly original concepts have been well executed. The melody makes me want to stamp my feet and adds to the overall atmosphere. At only £2 you'll not only stamp your feet, you'll leap sky-high.

RpM

A droid can be shot but it is immediately replaced by another, which will head down toward you. Bumping into forcefields can also cause you to fall off the platforms: you plummet until landing on another platform or the planet. This doesn't cost you energy, but it means a long way to go back up.

Sometimes after teleporting you get the chance to regain some power by collecting power pills. These can sustain you through long games.

Planets are all basically the same. They just appear in different colours and with a different droid. This means that despite the excellent presentation the game lacks in variety.

The graphics are good, though there isn't much except Zub and the droids. As for sound, there are two different tunes for the title screen and the game itself, the latter slowing down as you lose energy. Even so you may find them a little too hectic after a while. The gameplay is great fun to start with but you may soon tire of the lack of variety.

BW

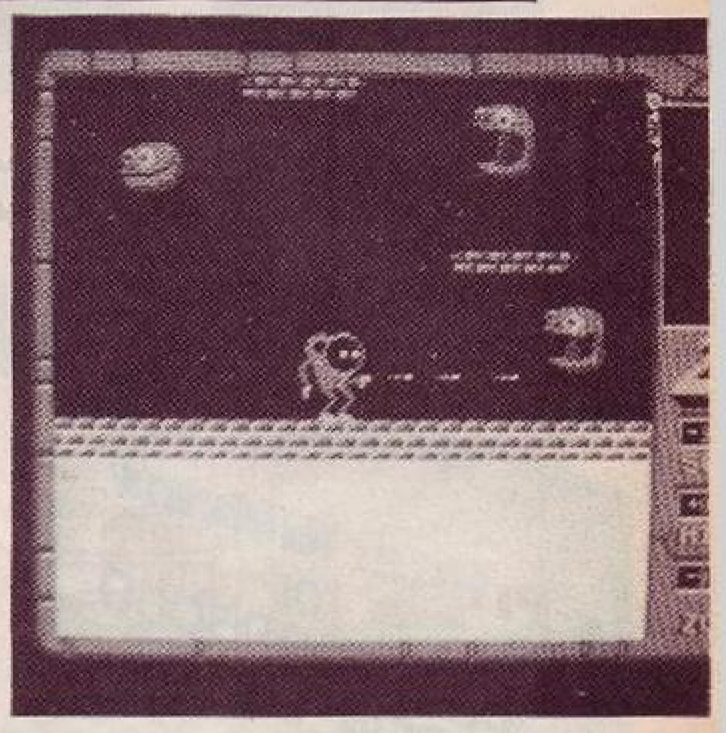
GREEN SCREEN VIEW

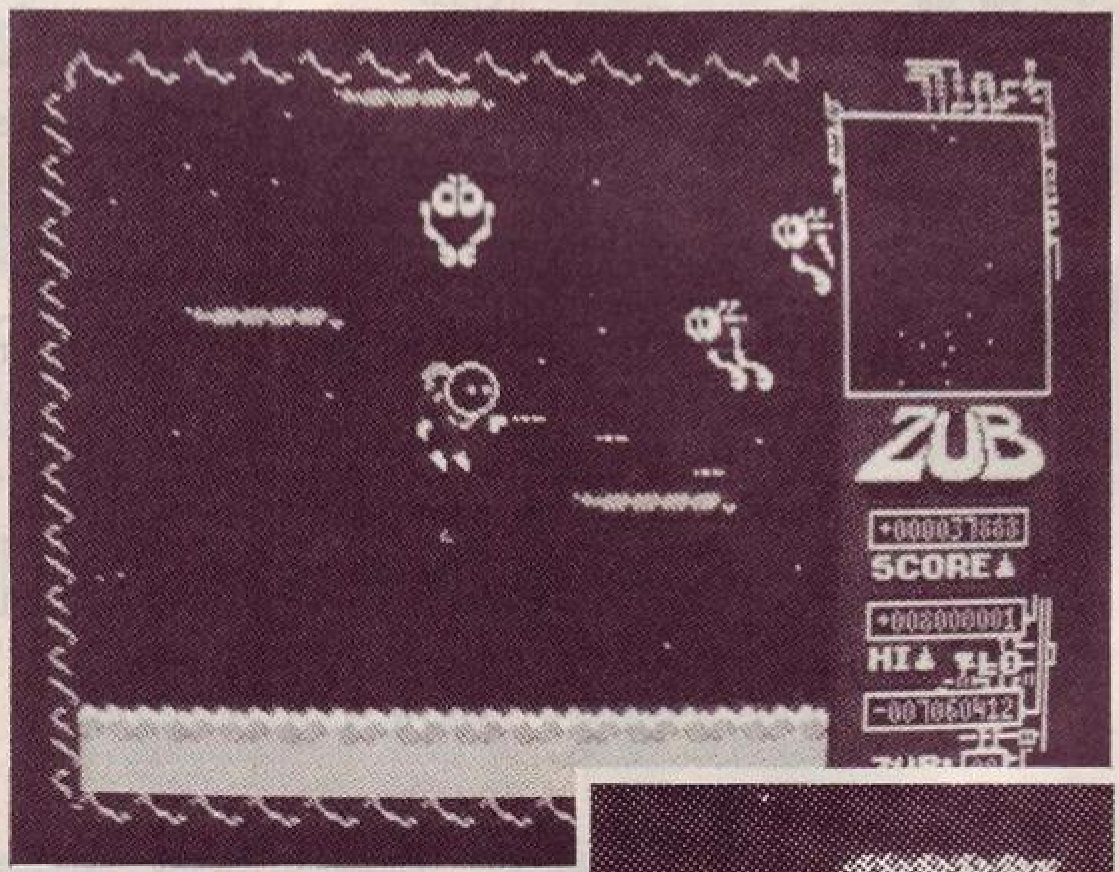
Splendid choice of colours.

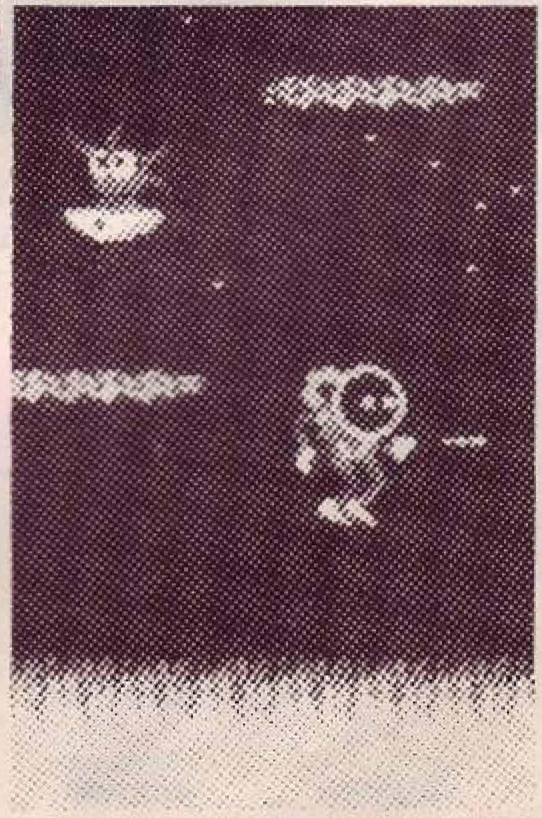
RpM

FIRST-DAY TARGET SCORE

500







G O O D   N E W S

- ► **Very well presented.**
- ► **Good music on title screen and game.**
- ► **Lots of fun to start with due to the character, music and task.**
- ► **Quite hard to complete the whole thing.**

B A D   N E W S

- ► **Lacks variety.**
- ► **Falling off when near the top and teleporting to the wrong planet can be very frustrating.**

GRAPHICS	67%
SONICS	71%
GRAB FACTOR	78%
STAYING POWER	66%
A A RATING	76%

SEPULCRI

Ariolasoft, £8.95 cass, £14.95 disk, joystick or keys

Alien 8 in the year 2075, when robots are no longer called droids? Not quite. The game has a lot more to offer with some very devious puzzles and some novel touches. It may not come top in the originality charts, but has lots to keep you hooked.

You control a robot, wandering through a computer's circuit board, that happens to be on a satellite. Guess what the satellite's main purpose in life is? No, it's not to start wars, it is actually there to prevent them. Unfortunately, there was no time to test it properly, which is why the robot is there to sort everything out and ... bla bla.

These intros get worse. I mean, who on earth would put male sheep instead of ram chips as part of the computer components?

Once the program has loaded, you are greeted to very loud, grating noise which will cause swift hand-to-volume movement. The menu screen allows either keyboard or joystick. If left for a while, a demo mode will start, giving you an insight into the marvelous detail and complexity of the rooms – it certainly makes up for the title music.

Off we go, in search of any defects in the computer's circuitry. The screen layout is akin to *Knightlore* and clones; however, the backgrounds are muticoloured (well more than one colour anyway), and very detailed – a joy to look at. On-screen movement is much faster, this is partly because there are never more than two objects to animate at any one time.

Your robot has a very cheeky grin on his face, giving the impression that he knows something you don't – probably that you will never complete the task in hand.

Control of the droid is not that hot. In fact it can be downright infuriating, especially when you are right on the edge of a precipice and the jump you are about to undertake is a life-or-death situation. More often than not, you will hit the wrong control and – scream, rant ...joystick ...game. Try as I might I couldn't break my joystick; it would have releaved the tension somewhat.

SECOND OPINION

My initial thought was that this was going to be a terrible rip-off. That's only half right. It is a rip-off of many games that have gone before, but it certainly isn't terrible. It has that quality that makes you bang the table in frustration every time you die from a stupid move, but you always come back for another go just to prove to yourself that you can do it right this time. With so many screens there's going to be a lot of proving to do.

BW

Apart from the pretty graphics and horrific control, what more is there to *Sepulcri*? Well, there is a tough, devious (possibly uncompletable) and infuriating plot to solve. The idea is simple: locate chips with dip-switches on their surface and jump on them. This causes the screen to flash and your 'switch' total to increase by one – only 50 of them to deactivate.

This may sound very simple, but putting it into practice is next to impossible (with five lives anyway). There are so many inanimate objects, and of course the marauding male sheep that kill you on contact. It's beyond a joke.

That's nearly it. Just one problem. Once all 50 dip-switches have been 'deselected', it is then necessary to find your way into ROTTES (Ridiculously Over The Top Exit Security – spare me, please!). The need to enter a secret code into 'codeposts' becomes apparent. The idea is to enter one letter into each posts and hope to get it set in the correct order. You are told the 'secret password': LETMEOUTOK – another beauty!

GREEN SCREEN VIEW

Fine, but don't look (?) at the music!

RpM

There is a fantastic or rather unusual option to the game. Whenever you pause the game, it is possible to dump a screen image to an Amstrad or Epson-compatible printer. The dump is shaded and can be very useful when putting together a map. It may be rather expensive on printer paper, though, for there are over 250 rooms.

Sepulcri has very addictive qualities. You will keep bashing away at it, with only a sore hand to show for your efforts. Lots of nice touches adding to the humour and overall presentation make this a worthwhile purchase. If you have not yet got a *Knightlore* clone, make this top of the list.

RpM

FIRST-DAY TARGET SCORE

Turn five switches on.

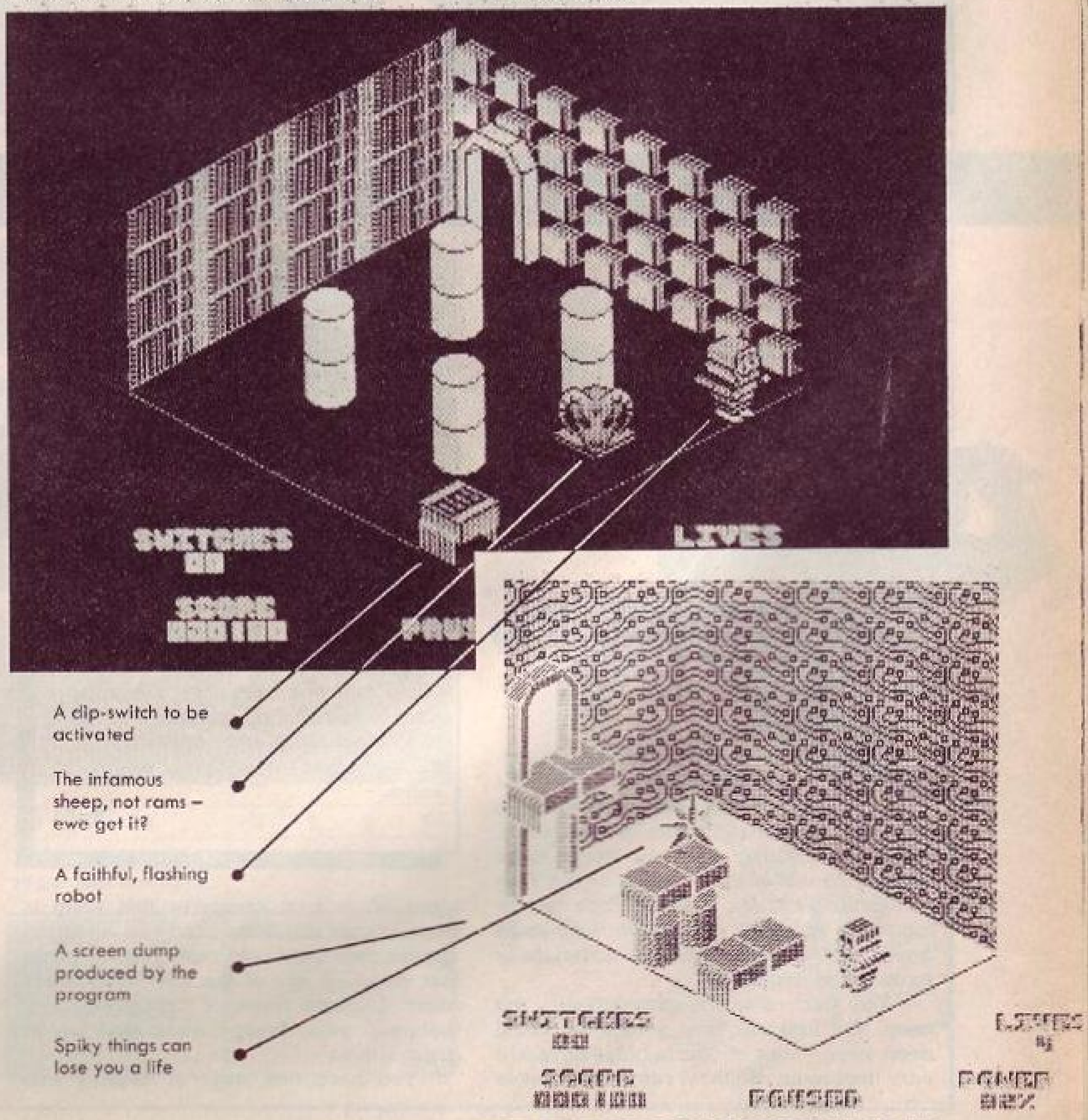
GRAPHICS	82%
SONICS	39%
GRAB FACTOR	60%
STAYING POWER	81%
A A RATING	71%

G O O D N E W S

- ▶ **Fast movement at all times.**
- ▶ **Great graphics.**
- ▶ **Humorous touches add to gameplay.**
- ▶ **Tough.**

B A D N E W S

- ▶ **Pitiful title music.**
- ▶ **Too tough.**



TERRA COGNITA

Code Masters, £1.99 cass, joystick only

Code Masters is a new budget label, but its first game is from an author well known to Amstrad users, Stephen Curtis. His previous games include *Nonterraqueous* and *Soul of a Robot*. This is a departure into the land of scrolling shoot-em-ups.

At first sight the downward-scrolling landscape looks very similar to that in *Bounder*. However, there's no bouncing ball, but a spaceship flying above the land. The graphics are very colourful and the scrolling quite good. The ship can be moved freely around the screen, all the way to the front, back and sides of the scrolling area.

SECOND OPINION

I wasn't too pleased with Bounder *when it appeared; seeing a clone was not exactly my idea of fun.But* Terra Cognita *is quite different. For a start, you can blast anything (well almost) that appears. Trying to dodge the flashing squares can be quite demanding and adds to the game's appeal. It's an enjoyable game, with a pricetag to match.*

RpM

The aim is to get through the 100 screens that make up the scrolling course. That won't be easy.

Two types of obstacle block your progress: static objects (steer clear) and flying droids (shoot or avoid). The static objects – they will flash on and off to warn you of what they are – are arranged in ever more devious and difficult ways as you move through the screens.

The flying droids come in several different types and movement patterns. They always appear from the top of the screen and head toward you, moving sideways and sometimes retreating back up the screen to make life difficult. The droids appear two at a time and can be shot with your forward-firing laser, but another wave appears immediately.

Various squares on the ground can provide the ship with help – or in some cases, hindrance. There are fuel squares that keep the ship supplied; running out will cost you a life. Bonus squares boost the points score, and another square gives you a period of immunity to the droids. There are also bonus-life squares, crucial if you want to get far, for you start with a meagre two. When you do lose a life the game restarts with the ship on the nearest launching pad to where you died – they are dotted all over the course.



Less helpful are the squares that slow down or speed up the ship. These may occur at an awkward point and speed you into a wall, or slow you down when you're desperate to reach a fuel dump. Time-shift squares are the worst of all: they return you to the very start of the course.

It's very colourful and addictive. Despite ripping off many elements of *Bounder* it's a great little game at the price. It may not be original but it shows Stephen Curtis is still producing good games.

BW

FIRST-DAY TARGET SCORE
10,000

GREEN SCREEN VIEW

Playable – almost, anyway!

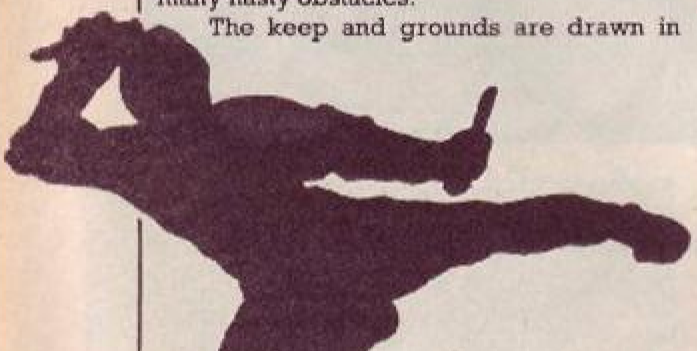
RpM

AVENGER

Gremlin, £9.95 cass, £14.95 disk, joystick or keys

This is the second in the *Way of the Tiger* series. It's not a straight martial-arts game but an arcade adventure composed of over 300 screens.

The action takes place in a castle keep and its surrounding grounds. You have to complete a number of tasks and overcome many nasty obstacles.



The keep and grounds are drawn in pleasing shades of green, grey and brown. The scenes scroll smoothly and quickly as your ninja character walks around them. It's not all scrolling: the game seems to be divided so that at some points on the map you suddenly flick a screen before returning to the scrolling. The whole thing looks good, with brighter colours occasionally thrown in to round it off.

You start off in the grounds near the keep. The first task is to get inside. You'll need keys – search thoroughly. Keys are very important; use them carefully because they're in limited supply and are lost if you accidentally drop them down a hole. A good few games will be needed to map out which doors you need to unlock to reveal more crucial areas.

On your travels around the keep and its grounds you'll encounter two basic types of danger: creatures that roam in certain areas and home in on you when you appear near them, and nasty pointed sticks that come up out of the floor. There are many different types of creature. All of them sap your energy when they get to grips with you.

SECOND OPINION

Kkkyyaee – off I go to do battle once more, this time to avenge the untimely death of my foster father, Naijishi. Guess who killed him – that's right it's Grandmaster Flash – er, make that 'of Flame'.

The game reminds me of Druid. *The scrolling is much faster, though; I found control a little tricky. Throwing stars or just booting opponents in the head is great fun, and underneath there is a tough and devious plot to solve.*

RpM

You have two ways of dealing with them. At long range you can kill them by throwing one of your limited supply of shurikens; close in, you can kick and punch them to death.

GREEN SCREEN VIEW

All is clear, all is quite – Kha wha ieargh oof – Got him!

RpM

Besides keys, you can also find treasure and shurikens lying around to pick up. Other features include the grills and trapdoors leading to the six levels of the keep. There are further objects you'll need for destroying the three guardians of the keep – in a specific order.

Your energy runs out gradually but it can be replenished by calling on the god Kwon. Do so too many times, however, and Kwon gets annoyed, ending the game anyway. If you get careless and don't notice the gauge going down, you may die without replenishing even once.

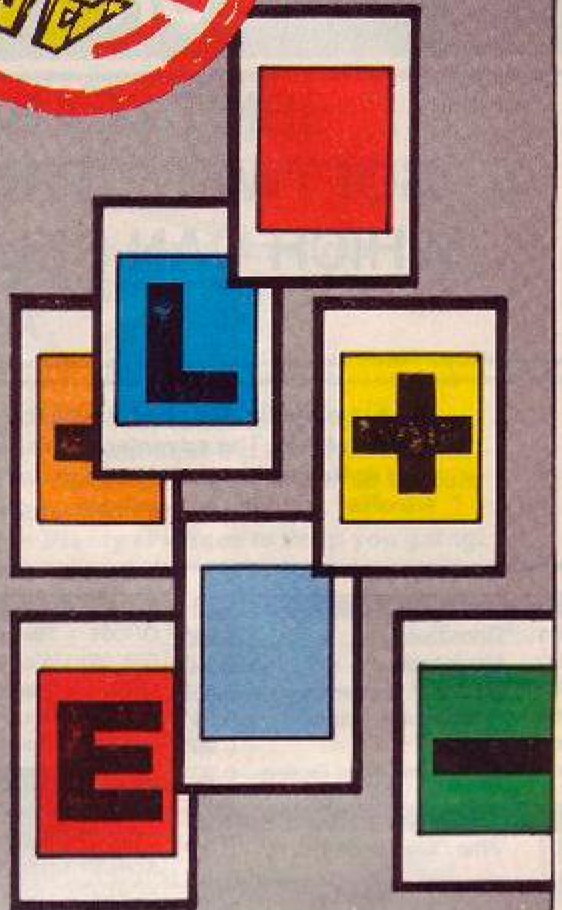
The graphics are good and give a very nice feel to the game. It proceeds at a very fast pace indeed. It's a great game for the explorers, and will take quite a lot of beating. Yet another very succesful game in the new genre of fast-action arcade adventure/exploration games.

BW

FIRST-DAY TARGET SCORE
Second level of keep



The start of the course



B A D   N E W S

► Steals most of its ideas from *Bounder.*

G O O D   N E W S

► Very colourful graphics.
► Good scrolling and character movement.
► Very testing course to get through.
► Nice special features like speed changes and immunity.

GRAPHICS	81%
SONICS	31%
GRAB FACTOR	81%
STAYING POWER	80%
A A RATING	80%



Ninja in the keep's grounds



B A D   N E W S

► Frustrating when you forget to replenish energy.

G O O D   N E W S

► Excellent multi-colour graphics.
► Good range of nasty monsters.
► Fast-paced action.
► Large playing area to keep you busy.

GRAPHICS	83%
SONICS	66%
GRAB FACTOR	82%
STAYING POWER	84%
A A RATING	83%

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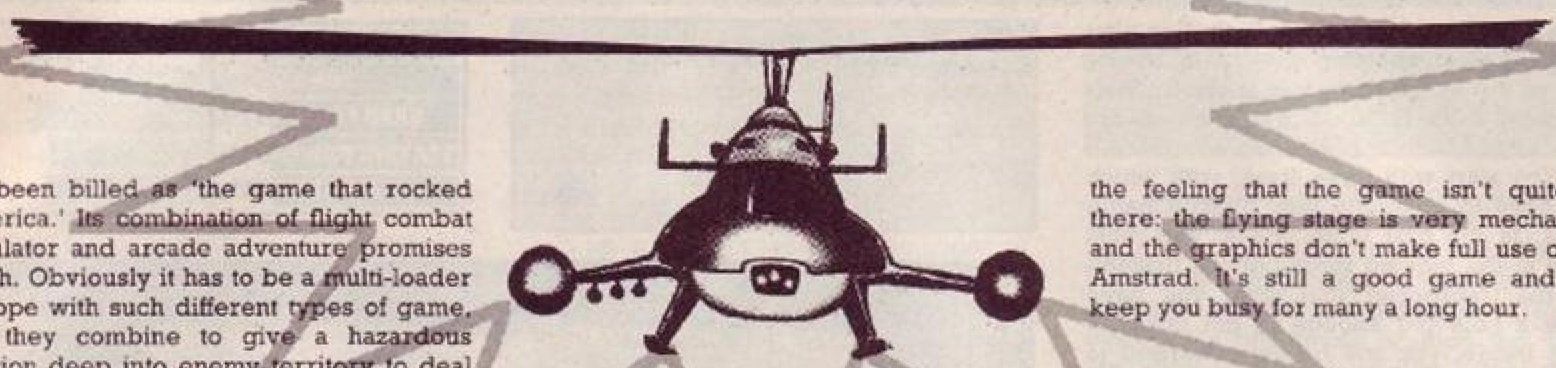
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INFILTRATOR

US Gold, £9.95 cass, £14.95 disk, joystick or keys



It's been billed as 'the game that rocked America.' Its combination of flight combat simulator and arcade adventure promises much. Obviously it has to be a multi-loader to cope with such different types of game, but they combine to give a hazardous mission deep into enemy territory to deal with the Mad Leader.

The instructions are comprehensive and full of bizarre comments that take the mickey out of many other scenarios. There's too much to tell you about here – unlike other magazines that just regurgitate the scenario from the cassette inlay in their reviews, we try to tell you about the game itself.

You start with the mission briefing, so you'd better keep an eye open while the game is loading. Then it's into the helicopter simulation. The screen view looks out of the cockpit with the instrument panel below it. Initially you're looking at your own base but once you're over 300 feet in the air the view switches to show just mountains on the horizon.

The controls are fairly simple. What will give you trouble isn't flying but locating your target and dealing with the other aircraft you encounter. After pinpointing the target you must stay on course for it despite the chopper veering all over the place. Jet planes appear intermittently; by radio you need to identify them as friendly or hostile. You can tell from their names – the enemy tends to be Weazel, Scum or Komie (subtle, eh?).

If you reply correctly to their request for identification you continue unmolested. Otherwise you'll have to fight it out. You're armed with missiles, cannon, chaff and flares. On the journey you can use a turbo boost; beware flying too low and running out of fuel.

If you get to the target you can land and load the next part of the game. This gives you control of a stick-man figure who has to get into an enemy compound. Several commands are at your disposal: papers, sleeping gas, gas grenade, mine detector, explosives and camera. Using these you have to search the compound for useful items and complete your mission of photographing some documents. In buildings you view each room separately with larger graphics than for the compound.

This part of the game is riddled with veiled references to the 'enemy' being the Russians. You keep finding empty caviar tins and bottles of vodka next to bits of dismembered bodies. I find this sort of nationalistic drivel very annoying. The Americans may love it but it's got no part in computer games – let's stick to fictional enemies in entertainment games and not try to indoctrinate people with racial hatred.

This section takes quite a bit of work before you can complete it. It's more enjoyable than the flying stage. If you succesfully complete that mission you'll proceed on to yet another one.

There's certainly a lot in the package, variety as well. However, you're left with the feeling that the game isn't quite all there: the flying stage is very mechanical and the graphics don't make full use of the Amstrad. It's still a good game and will keep you busy for many a long hour.

BW

SECOND OPINION

A disappointing game for me. The graphics looked as though someone had cut them from a newspaper with wire-cutters. Even the sound and gameplay gave me a sinking feeling. True, there is a fair amount to Infiltrator, *with various stages to go through. Sadly, none of them really got through to me.*

RpM

GREEN SCREEN VIEW

Newspaper print has always been in black-and-white (nearly). Green-and-green makes a nice change – you can't see as much!

RpM

FIRST-DAY TARGET SCORE
Reach the compound

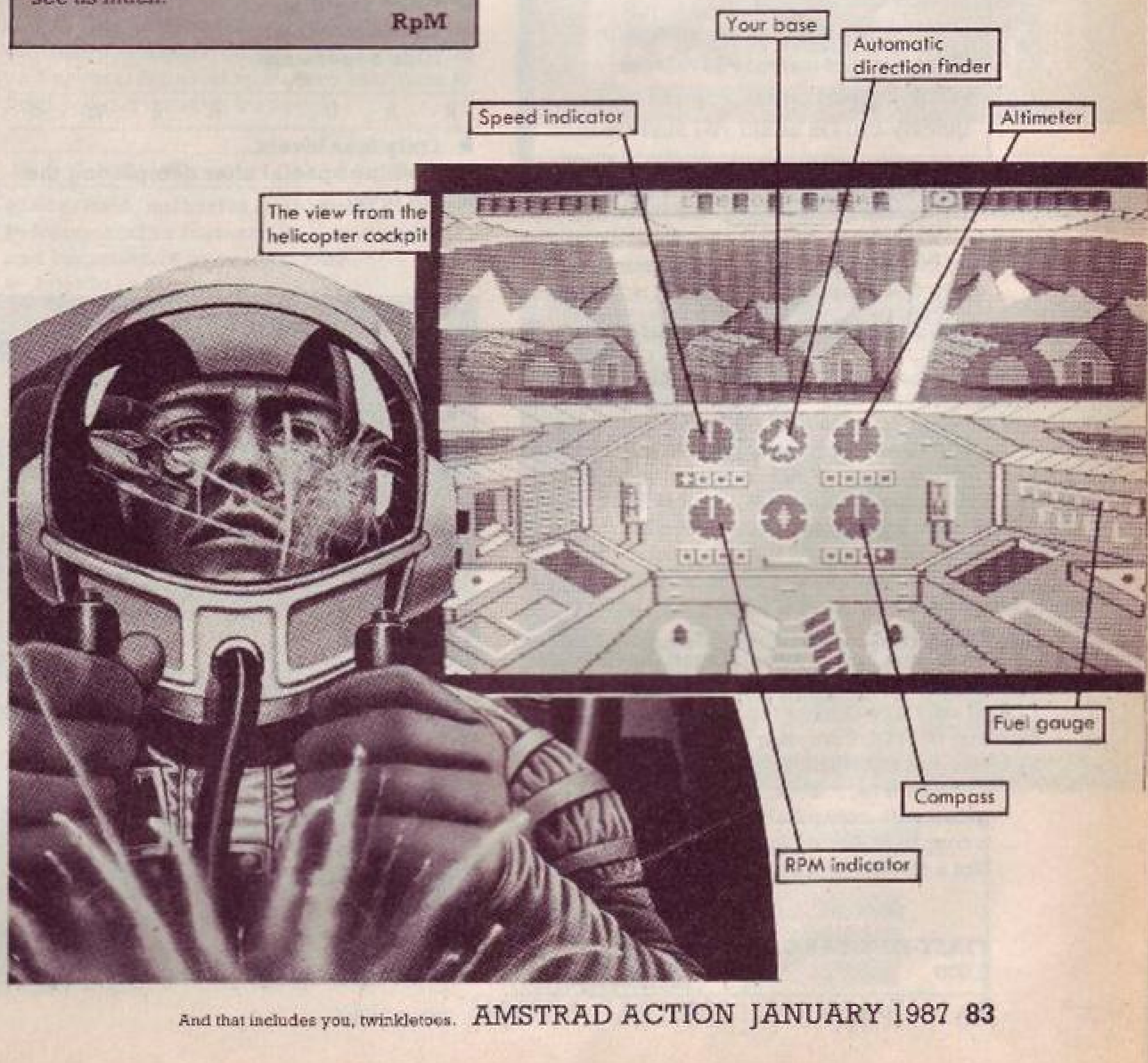
G O O D   N E W S

- **Two very different types of game.**
- **Well-thought-out game structure.**
- **The second stage requires thought and lots of exploring.**
- **Plenty of stages to keep you going.**

B A D   N E W S

- **Ridiculous anti-Soviet aspects.**
- **Graphics are disappointing.**

GRAPHICS	60%
SONICS	45%
GRAB FACTOR	68%
STAYING POWER	79%
A A RATING	75%



Z

Rino/Alligata, £7.95 cass, joystick only

Z is a new shoot-em-up from Rino. You play a spacefighter shooting the aliens in the land of the alien, shrouded in death. Personally, I think *ZzZzZzZz* would be an apt title.

You start with three lives, with which you have to complete four difficult battle zones. In the first three zones, you must shoot at the moving force-barrier protecting the transporter unit, until you have made a hole big enough to get through. Once inside, you will be hyperwarped to the next level.

The only things that will penetrate the force barrier are bombs which you get from the energy unit. Shoot it and it will release an energy capsule, which you must chase and capture. Energy units appear only when you have shot at least 10 aliens.

After level one, the alien complex, you enter the countryside battle zone, where 'Flying Saucims' fire directional missiles.

The third level, the lunar landscape, adds motherships. Shoot them five times and they explode. Complete this level to gain an extra life and transport into Nightflight, the last level.

SECOND OPINION

Initially you will be very excited by this game. It soon wanes: you discover that what could have been a large and complex playing area is in fact just a screen (okay, a screen and a half). This is cleverly disguised by the speed of scrolling and the fact that it wraps around in all directions.

Lots to shoot, but not much else. Any graphics that may have been rather interesting are whizzed by so quickly that I'm afraid you miss them.

RpM

Nightflight has all the hazards of the first three levels, but your final mission is to shoot the alien control ship. It will appear only after you have collected at least five bombs. You must hit it directly with five bombs.

Graphics are better than average but nothing special. The smooth scrolling initially makes you think you have a very large playing area. However, you soon realize that the area of screen repeats itself and is in fact no bigger than about four screen sizes.

The sound is fair, but with no real surprises until you hyperwarp. Then you get an *Elite* whoosh!

I was very disappointed having shot the alien control ship to find that I just had to start again from the beginning. After all that effort to complete the game, I expected more of a reward than that!

However, *Z* is a good shoot-em-up game with controllable controls. It took me a couple of games to get used to no gravity! Not a classic, but worth buying.

CB

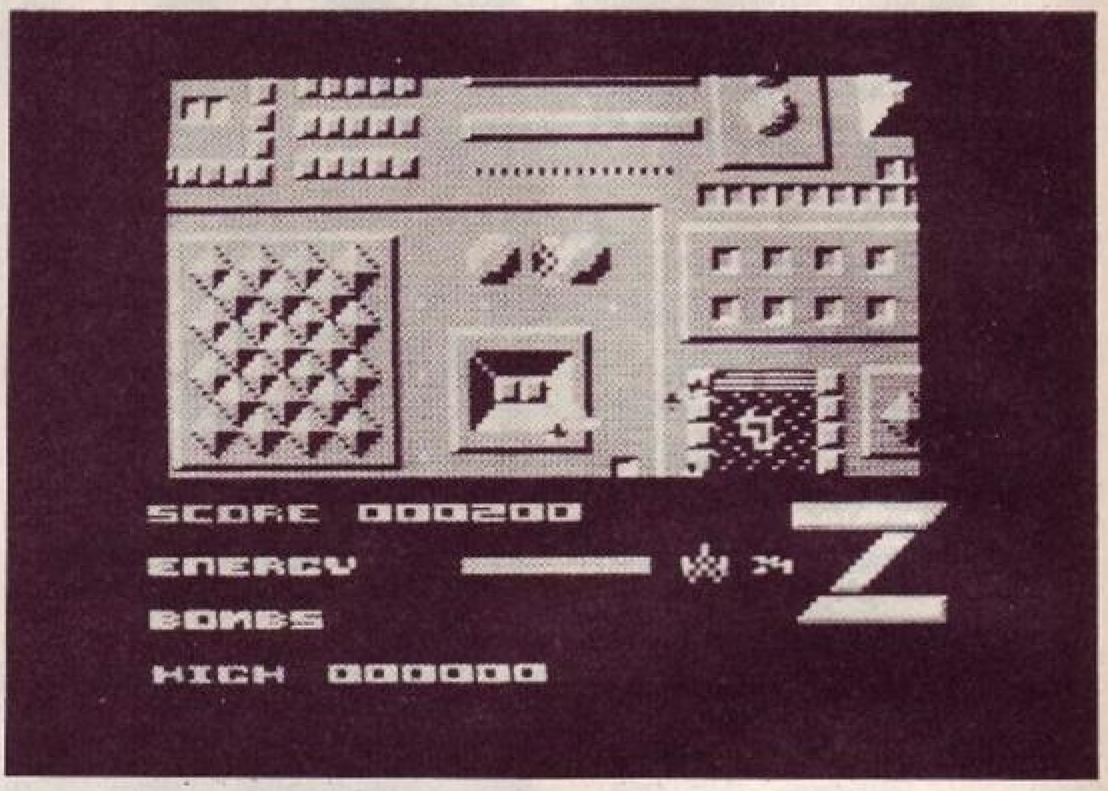
FIRST-DAY TARGET SCORE
5,000

GREEN SCREEN VIEW

Can be difficult to distinguish your fighter from among the background alien dwellings.

RpM

GRAPHICS	78%
SONICS	58%
GRAB FACTOR	77%
STAYING POWER	70%
A A RATING	74%



G O O D N E W S

- Good scrolling.
- Difficult levels.
- Nice hyperwarp.

B A D N E W S

- Only four levels.
- Nothing special after completing the fourth level.


The ship skims the futuristic landscape



FUTURE KNIGHT

Gremlin, £9.95 cass, £14.95 disk, joystick or keys

To cut a long story short, the knight of the future is doing exactly what he did in the past: rescuing a damsel in distress. This distinctly male-chauvinist activity isn't taking place in castles and on horseback any more, but in deep space aboard a spaceship.

Your task is to get through the 20 levels of the ship to the planet surface and from there reach the castle where the damsel is imprisoned. In the time that takes you I reckon the damsel will have got bored and made her own escape anyway. En route you're going to encounter some spectacular alien droids and a lot of hazards.

The graphics are the most noticeable part of the game – very impressive indeed. The backgrounds consist of futuristic metallic panelling and the sprites of the droids that guard the ship are very large and colourful.

These droids are the main danger to you as you try to move through the ship. When they touch you they explode, draining your energy.

The droids come in several varieties and have different movement patterns. Some stick to defined patterns, moving horizontally or vertically; others home in on you. One particularly large one slides menacingly but slowly towards you, but only along a horizontal path. If you run into him you lose energy massively.

There are other dangers such as pools of liquid and fixed gun emplacements that fire homing bullets at you. You can shoot droids with your three types of weapon. You can choose which use only where a gun appears in a box on the back wall.

To get around the ship you can jump, climb up and down ladders, use slides or just fall down holes. The holes aren't recommended because if you the knight too far you hit the ground and spend some time trying to shake the ringing noise out of your head.

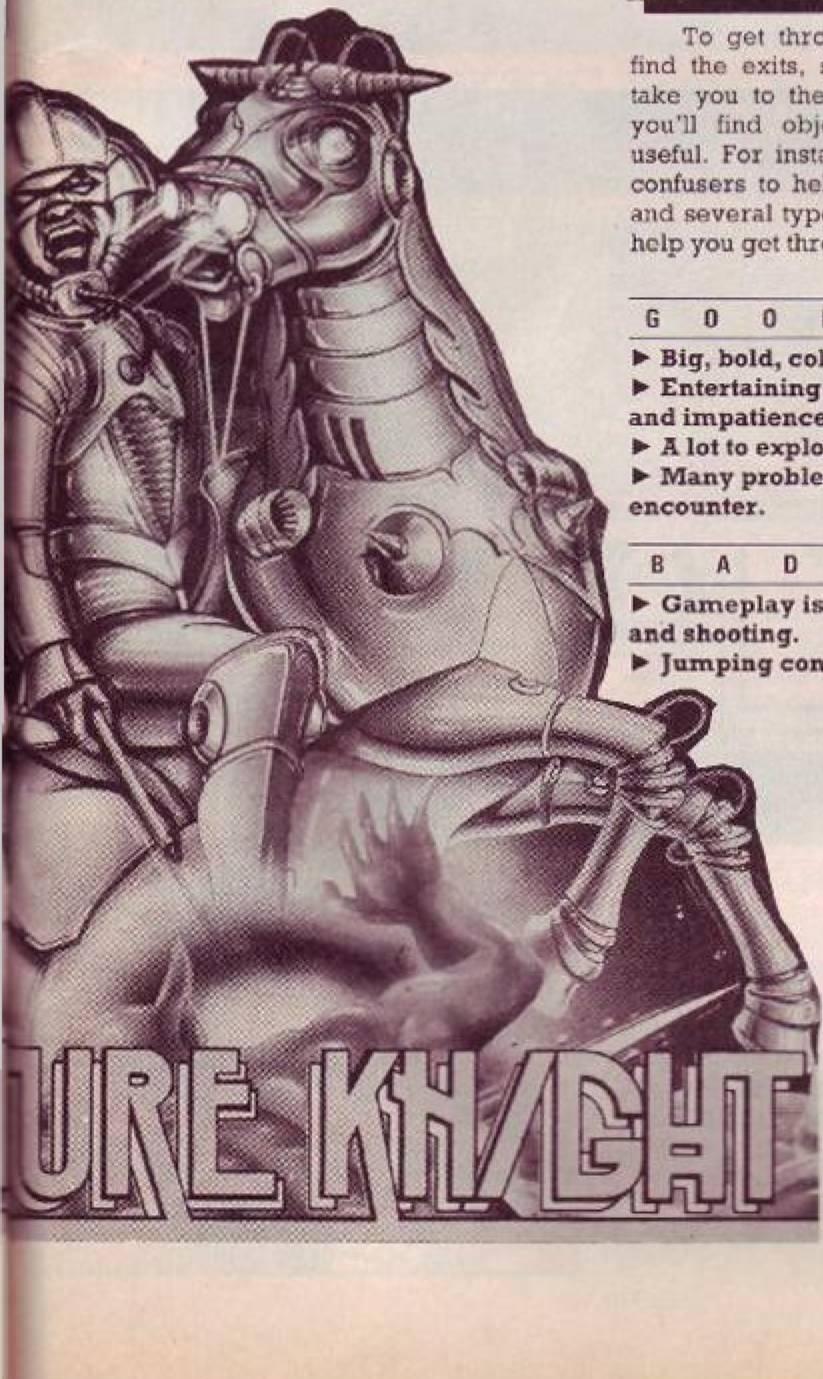
SECOND OPINION

Some of the most humorous touches have been incorporated into this game to make it a real gem. For example, if you leave the knight for a minute or two, he tries to attract your attention: a handshake, vigorous arm-waving. If that weren't enough, Sir Future begins to turn in circles, eventually getting rather violent. I suppose it's one way of causing a stir.

The rest of the game is just as appealing. Some of the many detailed sprites are, to put it mildly, extremely large and even worse for your state of being. A game that has lots to look at, possibly falling down on the gameplay. Still, it is worthy of a second look.

RpM

To get through the ship you need to find the exits, some of them locked, that take you to the next level. On your way you'll find objects which may come in useful. For instance there are bombs and confusers to help you out with the droids and several types of spell, key and pass to help you get through the levels.



GOOD NEWS

- ▶ **Big, bold, colourful graphics.**
- ▶ **Entertaining features like stunned fall and impatience over inaction.**
- ▶ **A lot to explore.**
- ▶ **Many problems and obstacles to encounter.**

BAD NEWS

- ▶ **Gameplay is mostly just exploring and shooting.**
- ▶ **Jumping control can be awkward.**

GREEN SCREEN VIEW

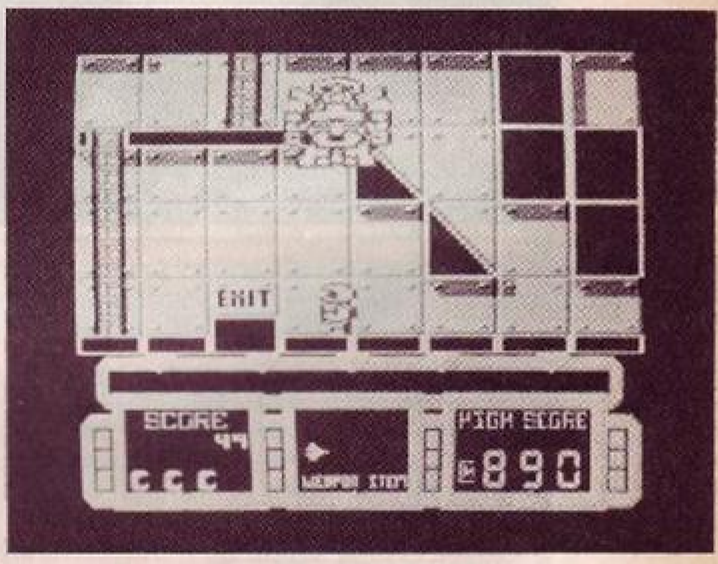
Bold and beautiful!

RpM

The game certainly looks wonderful and has some excellent touches: the massive droids, the effect after a long fall, and the knight's impatience if you leave him standing around too long are great to watch. The title music is good too, quite atmospheric. The gameplay lets it down just a little because it involves mostly just running, jumping and climbing around. However, there are puzzles to solve by using the objects you find and they should provide the essential thinking element. Enjoyable but the gameplay falls just short of the mark.

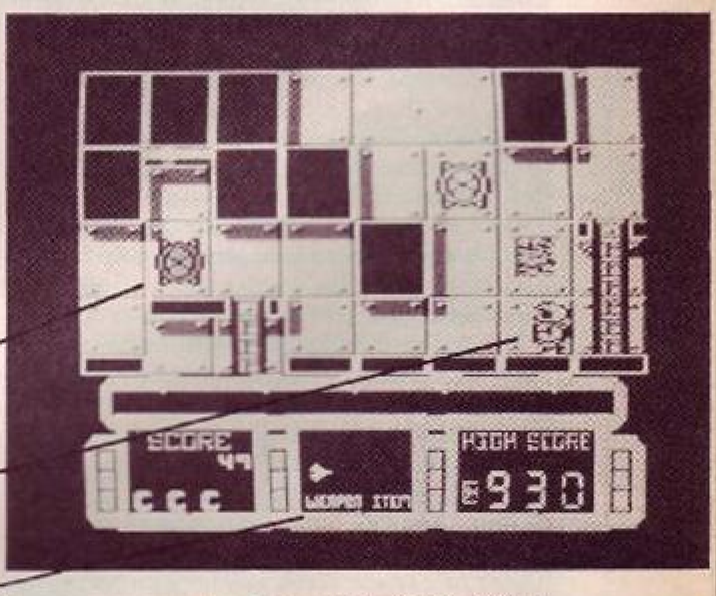
BW

FIRST-DAY TARGET SCORE
5,000



Face to face with a massive droid

A lovely chrome-alloy setting



Droids have it in for you

This is a knight?

Status box showing lives, energy, weapon and items carried

GRAPHICS	82%
SONICS	69%
GRAB FACTOR	76%
STAYING POWER	75%
A A RATING	75%

WERNER

Ariolasoft, £8.95 cass, £14.95 disk, joystick or keys

It's not easy to describe this cult German cartoon character. He's a cross between a hell's angel and a wally, or maybe a punk and a plonker. One thing is for sure, though: he may be weird but he knows how to come up with an entertaining computer game.

The game is split into five sections, all with their own distinctive action.

The title screen is delightful. It shows a large picture of Werner facing you and holding a joystick. As you move the stick he does likewise. Pressing fire will cause something else to happen – you'll have to see for yourselves – and you're onto a menu to choose one of the five games.

The first is a thing called 'diddling', a game involving dice, beermats and several players. It has some weird rules and isn't really part of the main game, but something to be played with a few friends while having a drink.

The four game sections proper are motor ride, panic tour, motorbike assembly and drive in the fog. They can be played singly for practice or you can try to get through the whole game.

The motor ride puts Werner in a little noddy car viewed from the side. A road scrolls right to left under the car, which you can move to the left or right of the screen.

Six dangers can stop you completing the journey. The most immediate is a nasty little thing that steals the ignition key, stopping you dead, if you aren't travelling fast enough. Just as deadly is overheating the radiator by travelling too fast for too long.

Other objects that fly onto the screen cause more gradual demises. A drill bores into the petrol tank, causing you to run out of fuel. Melons and a weird bloke on a condenser can reduce your beer supply if you don't duck them or get the car out of the way.

There's a simple method for dealing with each danger, but dealing with one after another is very tough.

The panic tour takes place on the same scrolling roadway but involves you in a form of obstacle course. You are carrying four objects which can be got rid of and



Take Werner on at diddling

THEY STOLE A MILLION

39 Steps/Ariolasoft, £8.95 cass, £14.95 disk, joystick or keys

Forget all those games that supposedly give you the chance to 'act out the role of,' because this is the real thing. It lets you pick a target to rob, choose your team from among the underworld's best, plan the raid in meticulous detail and then carry it out under the constant threat of discovery.

The game loads in two parts. In the first you gain information about the target and hire your team, and in the second you plan and then execute the raid. There are five targets: a coin dealer, art gallery, diamond merchant, high-street bank and museum. The potential take from each job increases, as do the risks of failure through the more complicated nature of the targets.

The first part is viewed as a whole series of window menus which provide a large number of frames of information. All start from a menu containing seven options. You usually need only three: set the target, pick your team and then pick a fence. You can also select new game, load team, save team and plan raid.

Setting a target is simple enough: tostart with you'll be able to afford the blueprints for only the coin dealer.

Once you've bought those you can go on to find out additional information about the job under three headings: value of swag, security data and alarm systems. Some of this information is free, but you'll have to pay for some pieces which may be crucial to the success of the job. The value of the swag will tell you what objects can be found, where, and how much you'll be able to fence them for. Security data has details on any safes, guards or cameras you might have to deal with. Under the third heading you learn where the alarm systems are, what kind, and how to disable them.

You can now go and hire your team from the 18 gangsters available. They all have special expertise: safecracking, locks, alarms and driving. You'll always need a driver but what other personnel you take depends on the job in question and what you can afford. Up to four men can go on a job with you, but make sure you need them all. Each man will want an initial payment and a cut of the take, so even if you succeed with the robbery you need to get enough loot to come out in profit.

Once you've appointed a fence who can sell the things you intend to steal it's on to the planning of the raid. Here you have



Is the safe going to be an easy one to crack?

SECOND OPINION

Absolutely astounding graphics, extremely colourful and detailed. As for the animation, you would swear it was a cartoon! An original and exceedingly humorous game, with a very likeable character, Werner, to control through some fairly demanding tasks.

If you are bored with all the current software that is thrown down your throat then believe me, Werner will open your eyes in amazement.

RpM

replaced by others found along the roadside. The objects are needed to deal with various blockages like a wall or tacks on the road. Which ones you should carry can only be learnt by trial and error. While you're trying to work it out, the screen continues to lob objects at you; you have to duck to survive.

The next two sections load separately and put Werner in charge of motorbikes. First he has to build one and then must drive one in fog. First he has to build a hot machine that will attract a buyer, but then when it is turned down by the cops he has to construct an acceptable bike within a



time limit. If the polizei pass this one, he is free to sell the original hot bike. Of course if he builds a boring, ordinary bike the buyer may not be at all happy.

The drive through the fog is graphically excellent, giving you a view from behind Werner's bike as he races along a road, through a tunnel and into the fog. You don't seem to be able to do anything except wait for the inevitable crash, though.

The graphics on all the sections of the game are well done and very funny. The

GREEN SCREEN VIEW

Fantastic, it's all visible – nobody misses out on those delightful graphics!

RpM

tasks don't always have that much depth or difficulty, but the two car sections are tough and the bike assembly will keep you guessing for a while.

What the game has going for it is the variety of the tasks, the humour and originality. Maybe not outstanding on gameplay, but tremendous entertainment value.

BW

FIRST-DAY TARGET SCORE

Build and sell a motorbike

GOOD NEWS

- **Very entertaining and funny.**
- **Some excellent graphics.**
- **Three quite testing game stages.**
- **A fun dice and beermat game.**
- **Very nicely presented.**

BAD NEWS

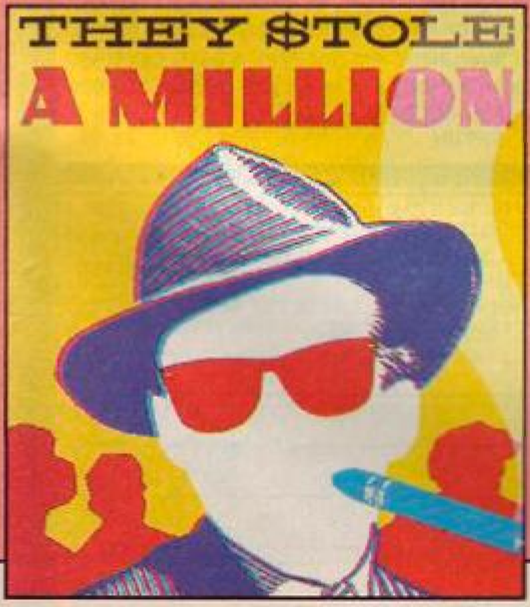
- **The instructions leave you with some work to do.**

GRAPHICS	80%
SONICS	24%
GRAB FACTOR	85%
STAYING POWER	80%
A A RATING	82%

to plot the path of every member of the team on the blueprint of the target. The blueprint will contain any information you've bought, so if you weren't thorough in your planning you may be missing crucial data.

Planning the routes isn't easy and requires a lot of thought and organisation. Routes have to be carefully timed so that members of the team don't block each other from doing things and don't set off any alarms either. Locks will have to be picked, safes cracked or blown open, cases robbed and alarms deactivated. There's a nice icon-driven editing system that controls the whole thing and allows you to delete moves, insert them and follow a team member's route.

When you're satisfied with the plan you can actually commit the robbery. The blue-



SECOND OPINION

What a wonderfully new concept. Trying to recruit, plan and hopefully run off with enough bucks to keep you in cider for the rest of your life. This is certainly an enticing game that will keep you plugging away at it until even the Narburak Musem has fallen to your foul deeds.

RpM

print fills in to give you an overhead view of rooms in the building as your men make their way through them. Messages are relayed back to you on each man's progress. Throughout the action you can control the boss: you can move him around freely, performing tasks, assisting other team members, freezing the action because of a police patrol, or aborting the job to go back to the blueprint stage.

If you succesfully complete the job you can carry on and try to do another one or go back and try to make an even better job of it.

The first part of the game is quite humourous with its underworld characters and target descriptions, but the real challenge is in the blueprint planning. Here you have to plan meticulously. It's quite surprising how much thought it requires before you can get it right. The window-menu system is well implemented and the blueprint and robbery stages are also very easy to use and look good.

It will take a lot of practice before you can steal that million but it's tremendous fun watching a successful robbery go through without a hitch. It's unlike any other game I've seen before, packed with originality and interesting things to do.

BW

FIRST-DAY TARGET SCORE

Complete the coin-dealer blag with profit

GREEN SCREEN VIEW

Come on, guv, the coast is clear!

RpM

GOOD NEWS

- **Five targets of increasing difficulty.**
- **Humourous descriptions in part one.**
- **Good use of windows in part one and icons in part two.**
- **Part two requires lots of planning and thought.**
- **Great watching the blag going down.**
- **Very original, unlike anything I've played before.**

BAD NEWS

- **The planning may not appeal to all tastes.**

GRAPHICS	62%
SONICS	19%
GRAB FACTOR	88%
STAYING POWER	89%
A A RATING	88%

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CITY SLICKER
Hewson, £8.95 cass, £14.95 disk, joystick or keys

Hewson seems to be marketing a lot of quality software lately. Initially I thought that this platform/arcade adventure was not one. However, as the game unfolds, it becomes more interesting and addictive.

You play the part of Slick, the city slicker. He has been hired by Shhh, you know who, to save the country from the wicked Abru Cadabbra. Abru Cadabbra has planted a bomb in the Houses of Parliament. You must control Slick to pick up objects which will help you to defuse the bomb – when you eventually find it.

The first screens are of the Tower of London, from which you must escape. It took me several attempts. Only with the incentive that you have just spent nine quid on this game will you persevere. To get out, you must find the entrance to the Tube station.

Slick must be a really cool guy, 'cos he don't 'ave to pay for his tube rides. The tube station is fun and reminds me of *Saboteur* in the way you travel. You get in and the train takes you to the next station on the Circle Line. There are seven other locations to the Tower of London. You can go to Westminster, where the bomb is, or Museum (main entrance or rear entrance), or Palace West, or Trafalgar Square, or Pall Mall, or Suburbia or back to the Tower.

Although the bomb is easily accessible, you must possess the right objects to defuse it.

SECOND OPINION
I found the game to have rather basic everything. Certainly not up to today's standards. The graphics and sound would have been marvellous around the Technician Ted *era. Even the gameplay lacks something – playability! The explosions when you fail in your mission are very pretty, but get extremely annoying as it takes several hours to go through the death sequence.*

RpM

Your jump is proportional to the amount of energy you have. Your energy decreases when you touch certain objects, sometimes enough for you to die. There is no limit on the number of lives you have, but when you die, you start from where you first came in – which is annoying when attempting to escape from the Tower. You can get down to the bottom, be about a step off the entrance to the tube station, and the bird drops its load on you, and back you go to the top.

City Slicker is an addictive game with some nice features and some very annoying ones, like the laborious bomb explosion every time to come into contact with Abru Cadabbra. Graphics are good, but could have been improved with the main characters being solid rather than skeletal.

GREEN SCREEN VIEW
Visible if you care to look.

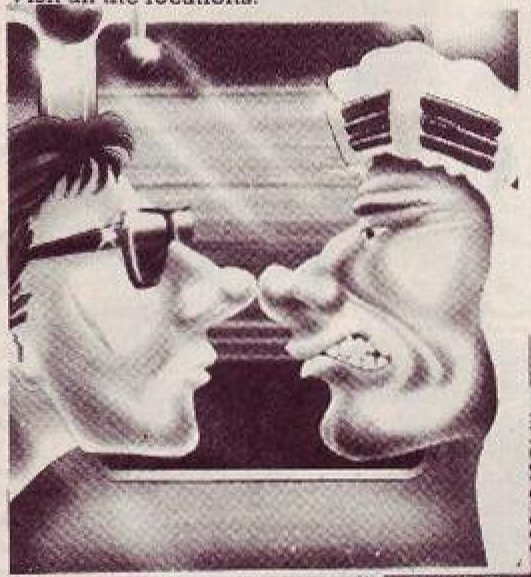
RpM

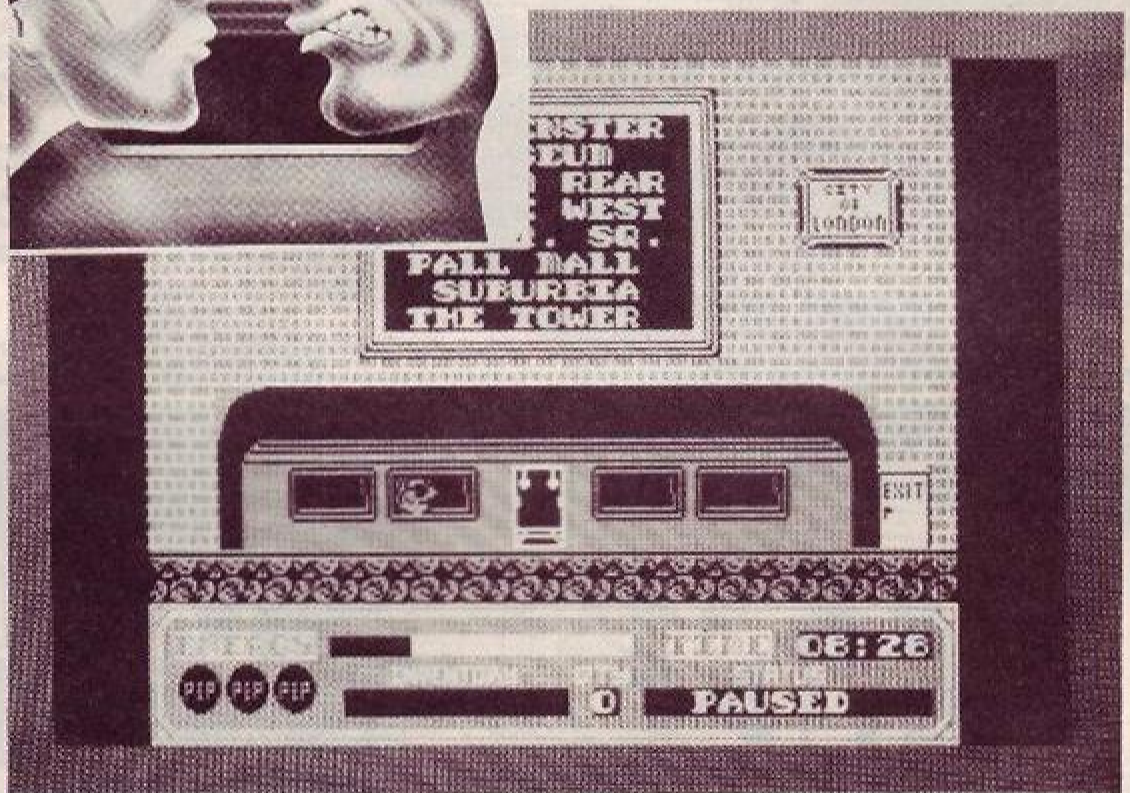
Music is played to you while you are battling to dodge Abru Cadabbra. (Oh, didn't I tell you? Abru Cadabbra kills you if he gets his filthy conniving little hands on you, so beware!) Sound is passable, but yet again nothing special.

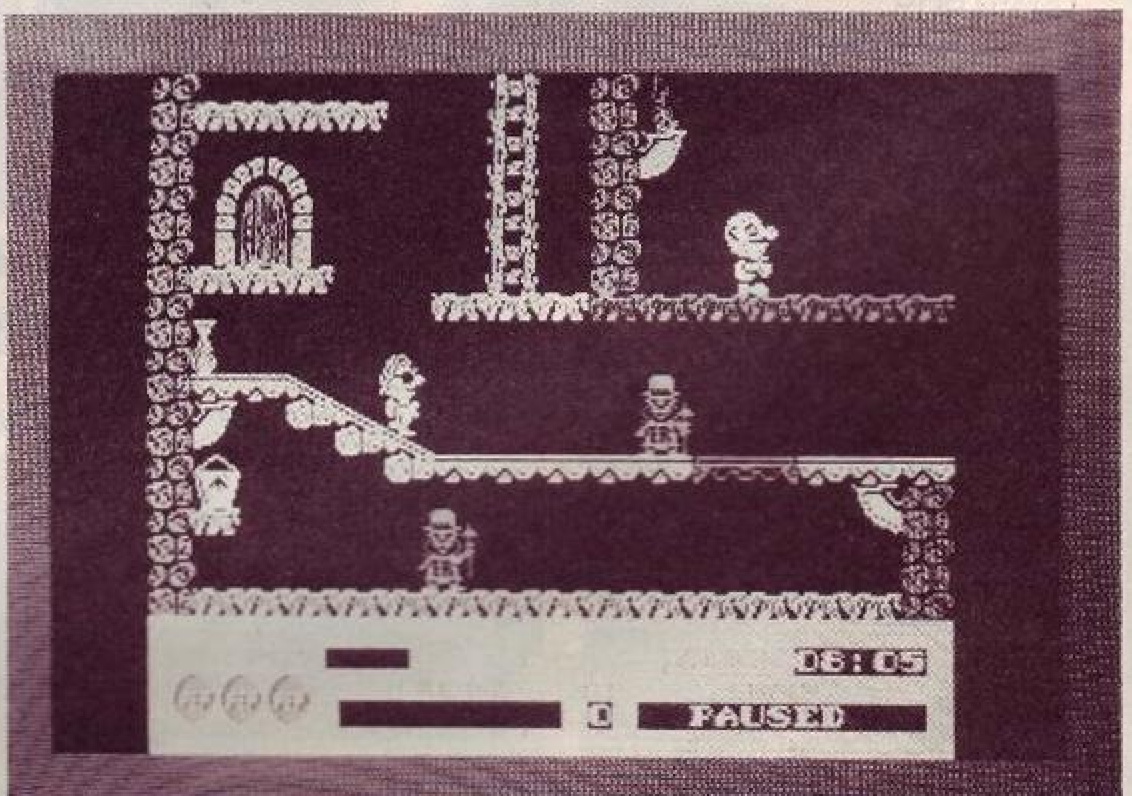
My advice is buy it – you won't be that disappointed!

CB

FIRST-DAY TARGET SCORE
Visit all the locations.







G O O D   N E W S

- ► **Good platform/arcade adventure.**
- ► **Easy playability.**
- ► **Very addictive.**

B A D   N E W S

- ► **Possible withdrawal symptoms – I'm suffering already.**
- ► **The main characters are difficult to see on some backgrounds.**
- ► **Infuriating aspects.**

GRAPHICS	67%
SONICS	52%
GRAB FACTOR	66%
STAYING POWER	78%
A A RATING	73%

CLASSIC AXIENS

Bubble Bus, £2.99 cass, joystick or keys

Classic Axiens is yet another *Galaxians* mutant. However, I'm impressed. But I can see why the Bubble Bus people have retailed this as a budget game.

The keys are redefinable, though the preset ones were fine for me. You can choose a one- or two-player game.

The Axiens assume the classic *Galaxian* flight formation while your ears are filled with the eerie shudder of their throbbing engines. They descend upon you in ones and twos initially, increasing in number as you go through the swooping hordes of aliens. A bonus ship is awarded every 10,000 points.

> **SECOND OPINION**
>
> *This is the type of game that keeps me amused for hours. I am a complete sucker for repetitive, mindless but very satisfying alien-bashing. The graphics are of a high standard (for this type of game anyway), and the explosions and laser shots. My only criticism: why does everything have to slow down on higher levels?*
>
> **RpM**

As with some versions of the arcade game *Galaxians*, the bullets move with the ship. This is at times an annoying feature – when trying to dodge and shoot an attacking Axien. But it can, at times, be used to your advantage.

The number of Axiens you face does not increase, only their speed and ingenuity – as if they needed more of that!

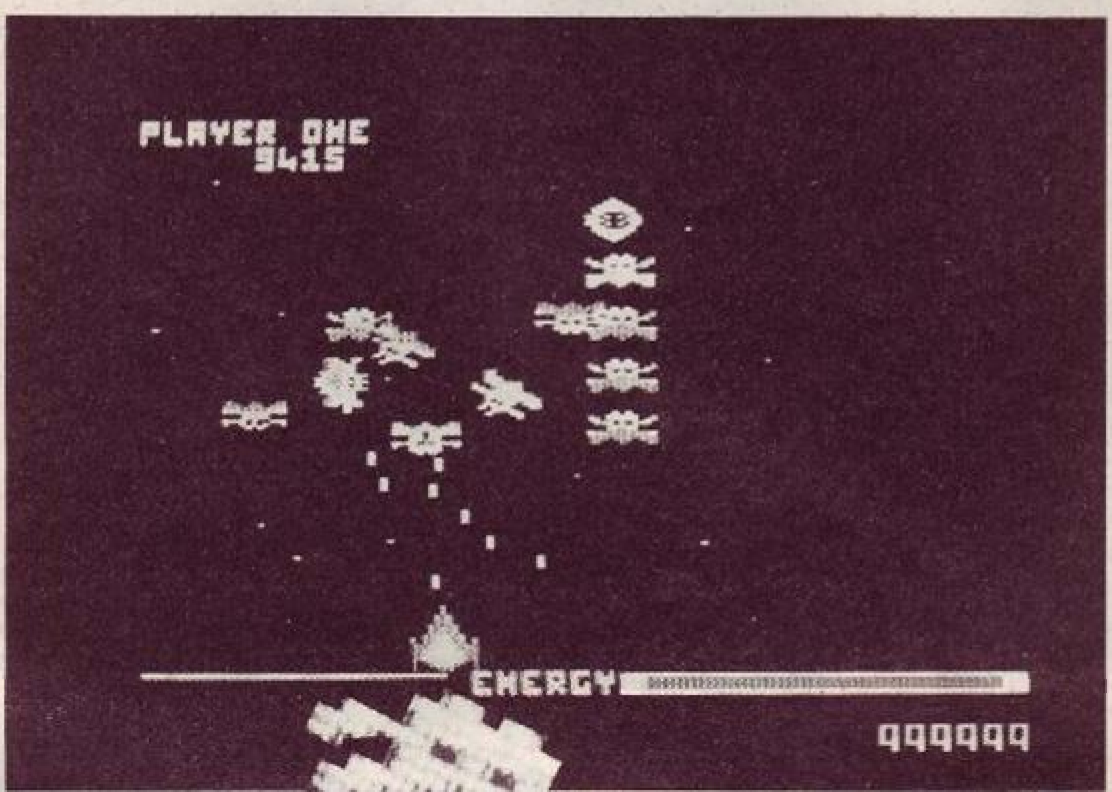
The graphics, though blocky, are colourful but adequate, lacking in life and individuality. The sound is fair but nothing special. The sound of the bullets and explosions are similar to the arcade versions but lack that certain *je ne sais quoi*.

However – and this is a big however – for the price, this game is well worth getting. The movement is easy and smooth, but those Axiens are so */?@! infuriating.

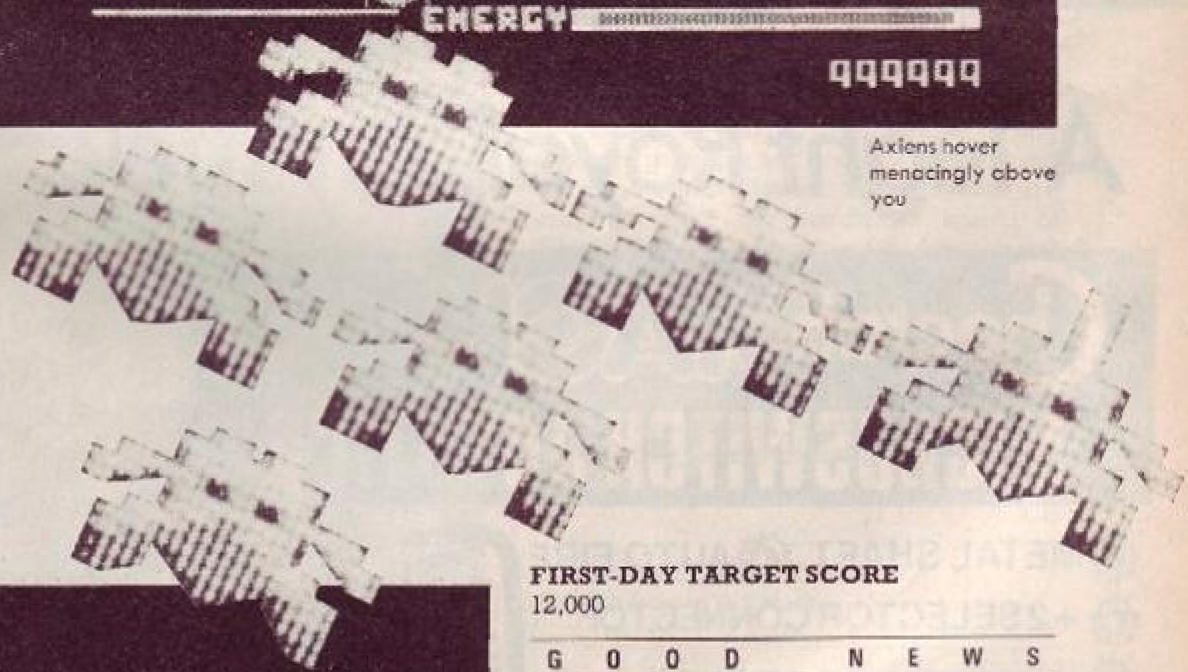
I hope the sales figure for this game is successful: it might encourage Bubble Bus and other software houses to start marketing cheap, quality games. Personally I'm fed up with saving up for a month to buy a game only to find it loses appeal before I've saved enough to buy another!

Anyway, shoot-em-up games are always nice to come back to after an argument with your household!

CB



Axiens hover menacingly above you





FIRST-DAY TARGET SCORE
12,000

G O O D   N E W S

- ► **Cheap.**
- ► **Easy-to-play shoot-em-up.**
- ► **Nice grafix & sonics.**

B A D   N E W S

- ► **Axiens so infuriating it takes an angry editor to make you persist.**
- ► **Nothing much special about it.**
- ► **Clone.**

> **GREEN SCREEN VIEW**
>
> *KABLAAMMM – well, at least I saw that!*
>
> **RpM**

GRAPHICS	61%
SONICS	55%
GRAB FACTOR	59%
STAYING POWER	66%
A A RATING	65%

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CAMELOT WARRIORS

Ariolasoft, £8.95 cass, £14.95 disk, joystick or keyboard



In yon newest game from Ariolasoft takest thou ye arcade adventure role, forsooth.

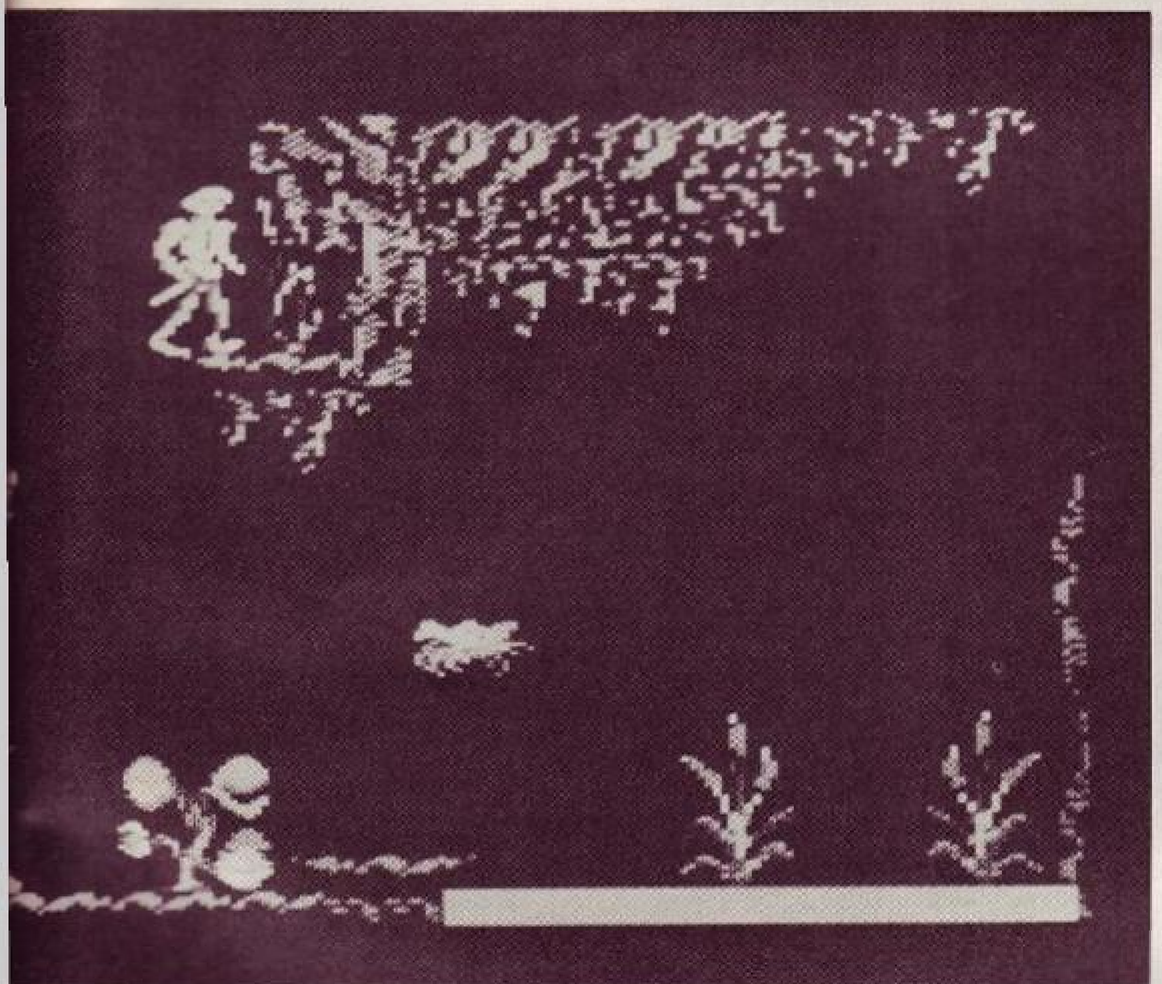
Enough of the Olde Englishe. This game places you in the boots of a knight in the time of King Arthur and Camelot. You are asked to grab your trusty sword 'Excamembert' to fight your way to Camelot Castle. On your way, you have to take the four objects from the 20th century to the four guardians of each world.

The loading screen promises much, but so do most. Choose keyboard or joystick to find yourself at the start of the adventure.

SECOND OPINION

The tough timing problems will appeal to some players, but there just didn't seem enough depth to keep me playing for long. There are nice features like the frog. With only four tasks, however, you probably won't be interested for long. I liked the graphics and the mixture of flick and scrolling screens, but this won't be everyone's cup of tea.

BW



Very quickly you'll lose a couple of lives before realizing what you have to do to protect yourself. After a while you learn what can be killed and what you must evade. Firstly, you must find 'the fire which does not burn' and take it to Aznaht, the master druid of the forest. Secondly find 'the mirror of wisdom' and take it to Kindo, Neptune's brother and king of the lake.

Once in the caves, you must find 'the elixir of life' and take it to Azornic, the powerful dragon and lord of the caves. Your final task is to find 'the voice from the other world' and take it to Arthur, King of Camelot.

The first task is not difficult and can be done after a few attempts. Jumping into the lake, however, is tricky and you realize that a man's best friend is not a bubble.

The next level is the hardest. It's all right for those reviewers who can spend all day to beat a level, but poor students have lesser tasks to spend their time on.

Camelot Warriors, although having average graphics and sound effects, is still a very addictive game. The graphics are only fair, like the hunchback knight of Notre Camelot, though with some good touches, like the frog's leap – real animation! Sound effects are boring and, if they weren't necessary to know when you had hit something, would be better turned off. Initial aspects of this game were promising, like the rendition of *Scarborough Fair* during the title page. However, even this gets boring.

CB

FIRST-DAY TARGET SCORE

Get the frog in the water

GOOD NEWS

- **A taxing arcade adventure.**
- **Good froggy jump.**
- **Very addictive.**

BAD NEWS

- **Mediocre sound effects.**
- **Annoying features like jumping the green things.**

GREEN SCREEN VIEW

Scenery loses a lot, but perfectly playable

BW

GRAPHICS	70%
SONICS	21%
GRAB FACTOR	69%
STAYING POWER	61%
A A RATING	64%


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software getting harder . . . .


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Telephone (0823) 54489 & 54029
software getting harder . . . .

ZOMBI
UBIsoft, disk only, joystick or keys (Price to be announced)



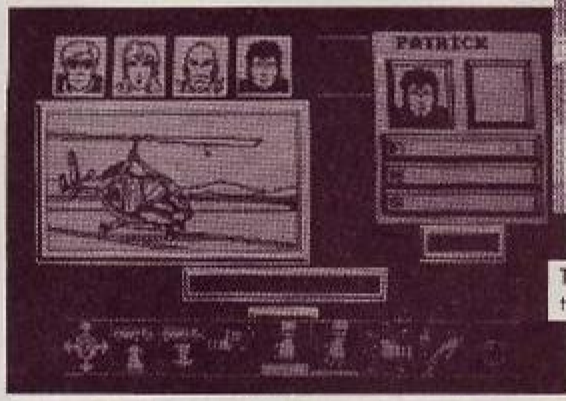
UBIsoft is a French software house making its first entry into the UK market with what looks like a distinctive and original game. The plot is simple enough: the dead are coming back to life, and you have to help four of the living stay that way. It's all acted out as an icon-driven adventure in a supermarket.

You start on the roof of the supermarket next to your helicopter, which is badly in need of fuel. Your aim is to refuel the chopper and get away from the hordes of zombies surrounding the store.

The screen is split into several areas showing your location, the icon menu, the character's status and the other characters you can control. The drawings of each location are detailed and atmospheric, with objects and equipment you can use clearly indicated by splashes of colour.

Everything is icon-controlled from a scrolling menu at the bottom of the screen. There's a wide range of options such as moving, using vehicles, picking up and holding objects, using objects, activating equipment, eating, sleeping, opening and closing things, and saving the game. You won't need to use all of them to begin with; it's best to familiarize first with movement and object commands.

> **GREEN SCREEN VIEW**
> *Iz hokay – très bien!*
> **RpM**



The chopper on the store roof

As the you explore you run into zombies who initially have to be beaten off by waggling the joystick. But they can be knocked off with weapons if you can find them. There are many objects that will have to be put to use to get out again, and this is tough because of the continual attention of the zombies.

It will take some time to get into the game but it has a lot to offer in the way of detailed atmospheric graphics, unusual game control and tough tasks. Not for those who like a game that's easy to get to grips with.

BW

> **SECOND OPINION**
> *Zombi sounds as though it could be a smash. Unfortunately lack of instructions and bugs (at least in the review copy) are its downfall – anybody know what the 'Safeguard' disk is? From the opening title screen, you expect to be in for a treat. I suppose in a way you are, if you can figure out what to do. The graphics and layout are of high quality, the instructions are somewhere in the English Channel, and me, I'm confused!*
> **RpM**

FIRST-DAY TARGET SCORE
Find some guns

G O O D   N E W S

- **Detailed atmospheric graphics.**
- **Interesting icon system with lots of options.**
- **Tough task with lots of depth.**
- **Lots to explore and discover.**

B A D   N E W S

- **Difficult to get into.**
- **Instructions haven't translated well.**

GRAPHICS	77%
SONICS	60%
GRAB FACTOR	65%
STAYING POWER	72%
A A RATING	69%

NOSFERATU
Piranha, £9.95 cass, joystick or keys

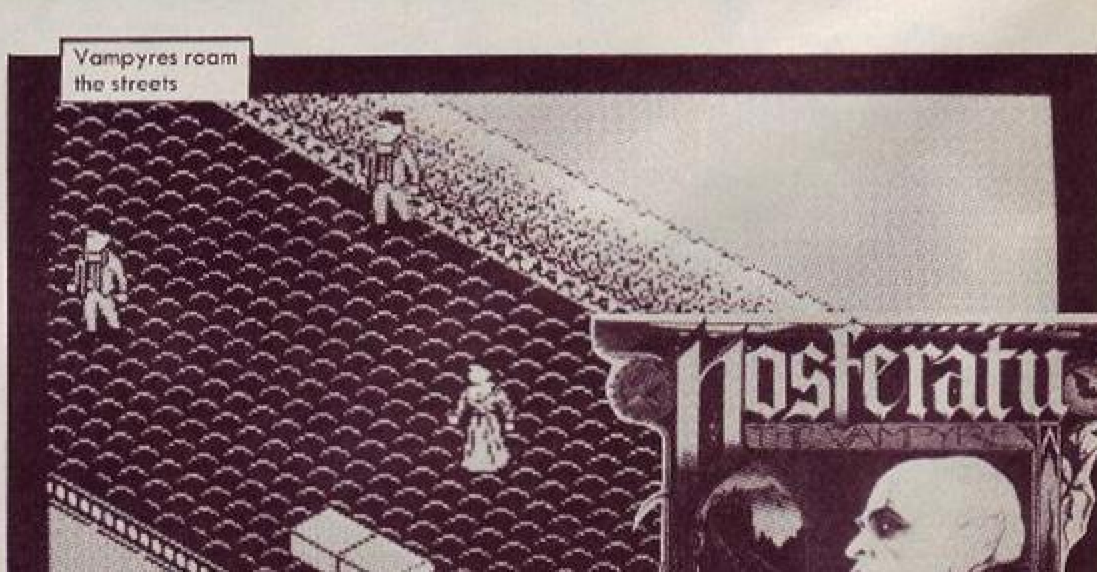
Nosferatu was the first-ever film based on Count Dracula and his blood-curdling habit of turning people into vampyres (sic). It was inevitable that someone would turn it into a computer game, and now we're going to get two in quick succession – CRL's *Dracula* is also due out soon.

But will they turn your hair white and make you hide behind the sofa in terror?

The game comes in three parts that take you through the whole gory story. You start in a house containing Nosferatu. You have to escape from it with the deeds. Then you have to control three characters to lure Nosferatu to the home of Lucy, to whom he is specially drawn. Then the final act: Lucy has to keep Nosferatu at bay in her room until the dawn destroys him.

The screens are isometric 3D and show the distinctive characteristics of the programmers, Design Design. Houses and streets are beautifully drawn with lots of detail and atmosphere. In the house you control only one character, Jonathan Harker, and have to fight off dangers like spiders, bats and dogs who all sap your energy. They can be repelled with various

Vampyres roam the streets





 I'm going to feed my turtles.

THAI BOXING

Anco, £8.95 cass, £12.95 disk, joystick only

Thai boxing is supposed to be 'an exciting mixture of boxing and karate.' Anyway, read on for my unbiased opinion.

The game is for joystick only, and just as well: I would rather take out my anger on my poor Quickshot II than my sensitive 6128 keyboard. (Please, ed., give me a joystick like yours.)

The faces at the top of the screen show any prospective Thai boxers what long-term effects are caused by combat sports. You must beat your opponent by kicking or punching his head or stomach. You can block his kicks and punches, but as you progress through the levels, you will realise that your defence becomes less effective. I have not yet been able to beat him at level three, and have become more and more infuriated.

SECOND OPINION

Thump-thump thump thump-thump-thump thump! Are you sick yet? I certainly am. How many more of these combat games must we put up with? I could have liked this one were it not for the annoying way that once onto a higher level you must remain there until beating the next set of opponents (which by the third level becomes impossible). It is also necessary to have a coffee-break while it loads in the next background.

There are a couple of good bits: the title music; watching the boxers' faces become bloodier and bloodier. But this pales into insignificance once you realise how boring and repetitious it all becomes.

RpM

The tape version is organised such that once you have beaten your opponent twice at any level, the next level is loaded from tape and you cannot return to a previous level. This is good if you wish to complete the game, but after successive beatings, you really do wish to fight an easier adversary every now and again to build your confidence back up.

While you are fighting your opponent, the states of his face and yours are shown at the top of the screen along with energy level. If you see your energy rapidly depleting, back off and rest for a short while.

The backgrounds to this game are by no means stunning. I felt that because they are loaded in from tape, rather then all held in memory at once, they could not only have depicted more, like *Xeno*, but that they could possibly have had some, albeit slight, animation. Furthermore, if you were not expecting more tape to load and your cassette player had no motor control, you could easily waste ten minutes trying to rewind to the correct tape position.

The graphics are not good, and the action is almost non-existent. The fighters are boring and not well animated. The sound is pathetic, made only marginally better by the tune played throughout the title page.

I did not like this game and would have been sore if I had paid nine quid for it.

CB

FIRST-DAY TARGET SCORE

Beat opponent once on level three.

GREEN SCREEN VIEW

Ever felt 'green' before?

RpM

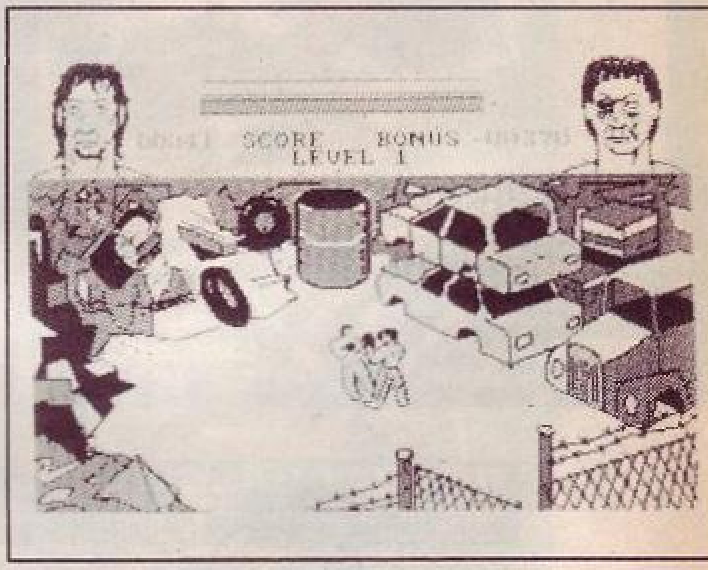
GOOD NEWS

- **Nice title-page tune.**
- **Nice loading screen.**

BAD NEWS

- **Horrible sound effects.**
- **Terrible action sequence and animation.**
- **No possibility for playing from start level.**
- **Each new background loaded from tape.**

GRAPHICS	57%
SONICS	42%
GRAB FACTOR	46%
STAYING POWER	44%
A A RATING	53%



---

weapons. Eating food will replenish energy.

You can pick up several objects to help you in your task, but there aren't any complicated puzzles, it's just a matter of searching for things. If you escape without the house deeds it makes the next part harder, but you can carry on without them.

SECOND OPINION

Nosferatu *is very similar to* Nexor *in that it is impossible to tell whether or not there is a wall at certain edges. This means every corner of a room must be checked for possible exits – tedious. The character you control has difficulty in walking it would seem: the arms tend to flap around ready for takeoff, while the legs seem to have a joint only at the hip. Apart from those complaints and the fact that on occasions it was impossible to see anything on the screen (yes I know it was supposed to be dark, but there is a limit), I have no major criticisms. The game is rather fun, with the usual rush around all the rooms in search of objects.*

RpM

The second part allows you to wander the town and its buildings where you find the inhabitants and plague rats. You control Harker, Lucy and Van Helsing as they try to kill off people turned to vampyres and plague rats, and lure Nosferatu back to Lucy's house. This is the final act where Lucy has to kill him – not an easy task.

The graphics are excellent and there are nice features like chopping up chairs with an axe to make stakes with which to impale vampyres. The gameplay won't tax you that much but it does present an entertaining challenge; the second part in particular won't be easy to beat.

BW

FIRST-DAY TARGET SCORE

Complete part one

GREEN SCREEN VIEW

Where did Drac go?

RpM

GOOD NEWS

- **Great 3D graphics – atmosphere and detail.**
- **Three parts take some beating.**
- **Entertaining tasks like staking people.**

BAD NEWS

- **Not enough puzzles.**
- **Not always an indication of when you can walk off the edge of a room.**

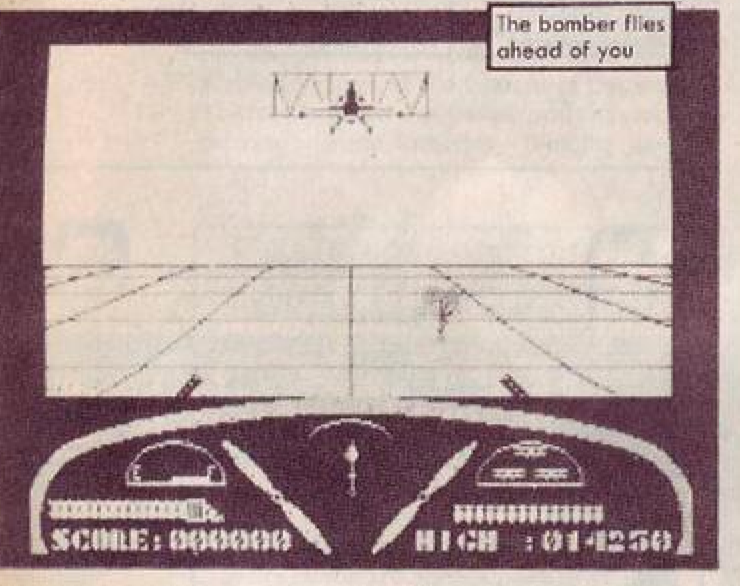
GRAPHICS	85%
SONICS	57%
GRAB FACTOR	72%
STAYING POWER	67%
A A RATING	70%

DEEP STRIKE
Durell, £9.95 cass, joystick or keys

Not another air-combat game! However, this was a premature feeling – I discovered what a thoroughly absorbing game *Deep Strike* really was. You take control of a World War I fighter. Mission: protect and guide four bombers to their drop-point – the enemy's fuel dump.

Taking off is automatic (hurray!), the grid landscape scrolling beneath you. Durell has done a good job with this: trees, houses, tanks and hills all increase in size the nearer you get to them. Control is very realistic. Any slight movement will cause the plane to tilt one way or the other.

One annoying feature, though, is the tendency for one of your bombers to position itself in front of you. Great, it may take the brunt of the attack, but when you go to shoot anything out of the skies, nine times out of ten it will be your own bomber.



The bomber flies ahead of you

The start of your mission is fairly quiet, the occasional Red Baron coming in for a sortie. If you are really lucky, a Black Baron will come tearing through the skies pumping lead into you as though his life depended on it. If not dealt with promptly it's all over for you and your squadron.

> **GREEN SCREEN VIEW**
> *Sky's clear, chocks away!*
> **RpM**

Deviating off course means certain death, for ground-to-air defence systems come into action – and they are mean. The nearer your destination, the heavier are the enemy attacks, not only from the air but also from the ground. Flak builds up something chronic, giving the impression of a foggy day. If that weren't enough to divert you attention, barrage balloons have been thrown in as well. No matter how many things you blow out of the air, something miraculously manages to replace it.

Non-stop action is definitely an understatement.

Flying into hills is not too healthy – it damages your propellers. And you know what happens when the propellers have been chewed up. If your lead bomber gets blown away then after several seconds, a replacement comes swooping in. By then, you have been hit all over and it's 'Gad, Charlie, I'm a goner for sure.'

A status box on the screen shows fuel, ammunition, active bombers and the state of your plane and the lead bomber – in the form of propellers.

It is possible to call up a map of the bomb route; this will also display how far off course you have managed to get. All action stops while viewing the map, so if you wish to take a breather, that's the thing to do.

The graphics are on the whole disappointing, the lack of colour making it rather drab. This is more than made up for by the riveting, non-stop, nerve-racking gameplay. You will be physically and mentally drained after your Deep Strike. There's no rest till blighty has been bombed.

RpM

FIRST-DAY TARGET SCORE
Get past the barrage balloons.

GOOD NEWS
- Fast and furious non-stop action.
- You won't stop till the fuel dump is down.
- Excellent grid scrolling.
- Meaty explosions.

BAD NEWS
- Don't listen to the title tune.
- Lack of colour.
- Replacement hands not cheap.

GRAPHICS	61%
SONICS	54%
GRAB FACTOR	72%
STAYING POWER	77%
AA RATING	70%

ROCKET BALL
Strobe/IJK, £6.90 cass, joystick or keys

Anyone who remembers that classic film of the 1970s, *Rollerball*, will recognise this game immediately. It tries to bring to the computer the violence, action and excitement of the game that reflected all that was bad about society's bloodlust for a gladiatorial arena.

The game is set on a circular rink with banked boards, much like a cycling arena. This is represented by a scrolling screen which the players can move up and down as if it were banking. The players – two teams of five – are on rollerskates. You control whichever of your five skaters is on screen.

> **GREEN SCREEN VIEW**
> *Sometimes there – most times not!*
> **RpM**

The players can be speeded up, slowed down, made to crouch and jump. They can also run into other players to deliberately elbow them to the ground. If a player falls over it takes a while for him to get back up. The remaining players are computer-controlled. If you play against the computer you'll find seven very tough skill levels.

The aim of all this skating mayhem is simply to pick up a ball that is shot into the arena like a cannonball around a roulette wheel and throw it into the opposition's goal. This is just a small box on the top wall. The ball can also be used as an offensive weapon to throw at the other players, and you need to be careful about tripping over it yourself.

There's a lot of fun to be had here, particularly in two-player games. The graphics leave a bit to be desired but they are fast and effective. You have P Beckett to thank for that – he did the Amstrad conversion. It's the sort of game that relies purely on the two players to make it interesting, but even against the computer you can have tough battles requiring strategy and quick reactions.

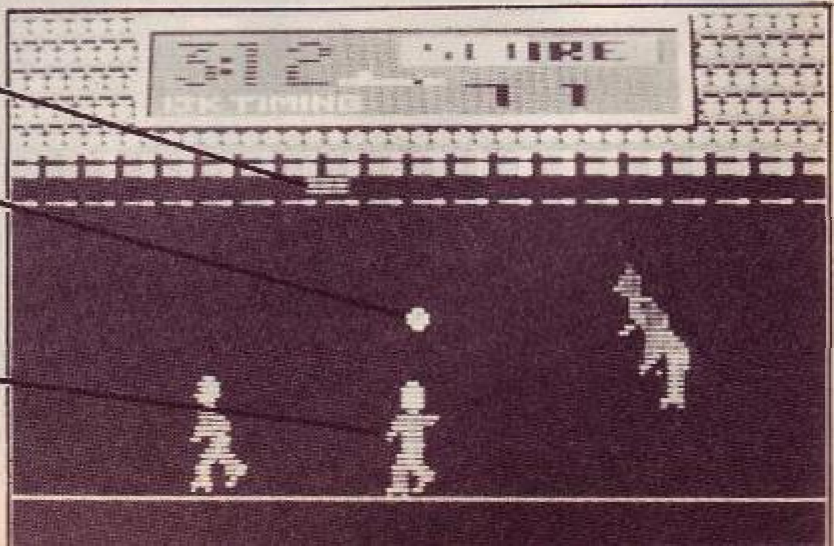
BW

FIRST-DAY TARGET SCORE
Beat computer level 1

GOOD NEWS
- Fast-moving graphics.
- Exciting two-player action.
- Tough computer opponent with variable levels.
- Needs strategy and quick reactions.

BAD NEWS
- Graphics look weird with lines between them, and flicker.

GRAPHICS	56%
SONICS	54%
GRAB FACTOR	74%
STAYING POWER	72%
AA RATING	72%


One of the goals
The ball whizzes on its lethal way
Shooting for goal

SHEER GENIUS

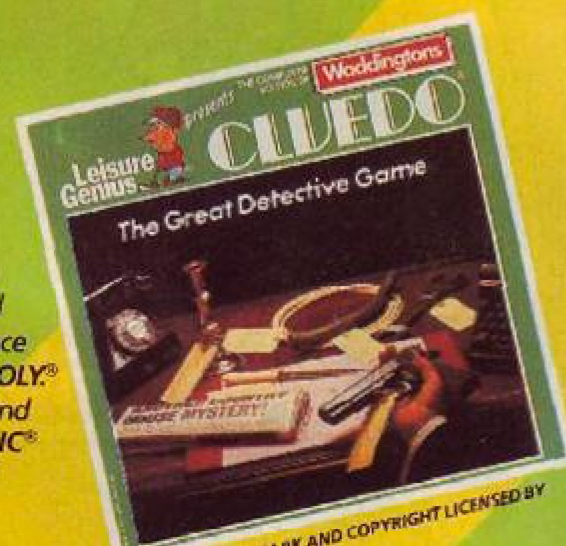
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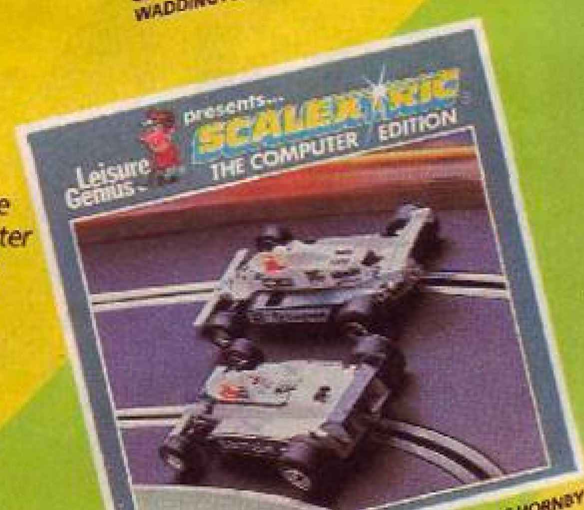


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CHEATMODE

CONQUEST

Some quick, but very informative, tips for the Mastertronic game from a reader who didn't put his or her name on the bit of paper concerned – we tend to shuffle separate pieces of paper so put your name on every single thing.

1. The grey book teaches you to use magic wands. Use it then drop it.
2. The same applies to the book of potions.
3. The magic axe kills all slow-moving creatures.
4. The grey wand kills red creatures and the red wand kills grey creatures.
5. Both wands kill green creatures.
6. If you're touched by a green creature you're poisoned and should drink a potion.
7. Small keys open chests.
8. Large keys open doors to other sections of the castle.
9. Ornate keys open cupboards.
10. All keys must be the same colour as the object to be opened.
11. To pass through the fireplace carry the poker.
12. The sounds make sense. Going in the right direction carrying the right object causes a particular sound, as does a decrease in energy.
13. Coins can be used on the vending machines.



This poke is for the disk version of the game and comes from our own RpM. It gives you up to 255 lives. You just have to type it in and run it, then every time the game loads you are asked how many lives you want. Note that the poke does write to the disk, so make sure the write-protect tab is off and that you have typed the listing in very carefully.

```
 1 'Green Beret
 2 'Amstrad Action Jan87
10 OPENOUT"Y" MEMURY &100
0
20 MODE 1:LOAD"data1"
30 INPUT"How many lives ?
 ",lv
40 IF lv<0 OR lv>255 THEN
 30
50 POKE &137B,lv
60 SAVE"data1",b,&1040,&3
FC0
70 RUN"BERET"
```





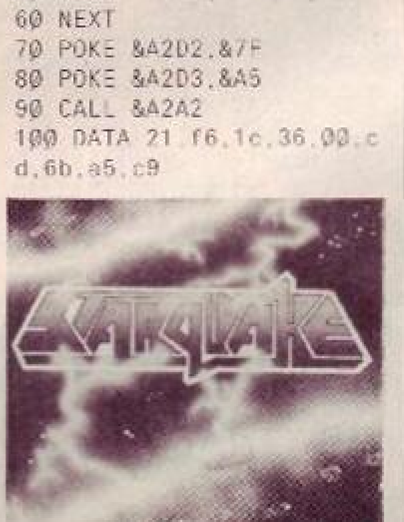
Pokes for both tape and disk versions of the game here. The Method 1 tape poke comes from **Mark Bennett** of Spondon and gives 255 lives. The disk poke is from RpM. Save the disk poke to the game disk under any name, then run it to automatically load the game.

```
 1 'Lightforce (disk)
 2 'Amstrad Action Jan87
10 OPENOUT"Y":MEMORY &500
20 MODE 1:LOAD"DISC"
30 FOR t-&641 TO &658
40 READ a$:POKE t,VAL("&"
+a$)
50 NEXT t
60 INPUT"How many lives ?
 ",lv
70 IF lv=0 THEN 60
80 POKE &64E,lv
90 CALL &500
100 DATA 21,88,1C,CD,83,B
C,CD,7A
110 DATA BC,21,0D,76,36,F
F,0E,FF
120 DATA 21,31,73,CD,16,B
D,00,00
130 DATA 00,00,C9
```

```
 1 'Lightforce (tape)
 2 'Amstrad Action Jan87
10 OPENOUT"d":MEMORY 1499
20 LOAD"lightforce"
30 FOR n-&63F TO &643:REA
D a$
40 POKE n,VAL("&"+a$)
50 NEXT
60 CALL 1500
70 DATA 21,0d,76,36,ff
```

Nicholas Pavis from Rugby brings us a Method 1 poke for the Bubble Bus game. It gives you infinite lives.

```
 1 'Starquake
 2 'Amstrad Action Jan87
10 LOAD"!tload",&A2A2
20 MODE 1:INK 0,0:BORDER
0:INK 1,6:INK 2,20:INK 3,
26
30 FOR a-&A57F TO &A587
40 READ a$
50 POKE a,VAL("&"+a$)
60 NEXT
70 POKE &A2D2,&7F
80 POKE &A2D3,&A5
90 CALL &A2A2
100 DATA 21,f6,1c,36,00,c
d,6b,a5,c9
```



Poke methods

Here is how to input the majority of *Cheat Mode* pokes. The instructions for each poke tell you which of the two different methods to use. If you have a 664 or 6128, you'll have to type |tape before typing either.

Method 1

Make sure that you've rewound the game tape to the beginning. Now type in the poke listing. Then type RUN and press the Enter key. (Don't use the key marked CTRL or Control; that would stop the poke from working.) Press the Play key on the cassette deck, and then any key on the main keyboard – the spacebar will do nicely. The tape should now start to play through in the normal way.

Method 2

For this method, you have to skip the first bit of the game program.

To do that, start by rewinding the game tape to the beginning. Now type in the listing.

Then type CAT and press Enter. Start the tape by pressing Play and then any key. Then watch the screen.

After a little while you'll get the message Found *something* block 1. It doesn't matter what the *something* actually is; this will vary from one game to another. If the instructions with the poke just tell you to skip the first block, you should stop the tape here.

If the instructions tell you to skip several things, stop the tape when the Found message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape running.



Peter **Featherstone** from Leeds has a poke that gives infinite lives, time, ammo and also speeds up the game (causing some extra flickering as well). It's entered using Method 1. The second poke comes from David German of Honington who not only does what Peter did (except for speeding the game up) but allows you to set the number of rings to collect as well and turn the title tune off.



```
 1 'Apprentice 1
 2 'Amstrad Action Jan87
10 BORDER 0:INK 0,0:MODE
1
20 OPENOUT "d":MEMORY 460
0
30 LOAD""
40 FOR f-1024 TO 2000
50 READ a:IF a-999 THEN G
OTO 80
60 POKE f,a
70 NEXT
80 POKE 4704,12:POKE 4705
,4
90 CALL 4608
100 DATA 67,111,112,121,3
2,111,102,32,65,65,33,255
110 DATA 175,50,158,145
120 DATA 175,50,95,139
130 DATA 175,50,123,137
140 DATA 62,118,50,25,189
,62,201,50,26,189
150 DATA 33,0,4,17,165,13
6,1,12,0,237,176
160 DATA 195,122,158,999
```

```
 1 'Apprentice 2
 2 'Amstrad Action Jan87
10 FOR b=&BF00 TO &BF2C:R
EAD a$:POKE b,VAL("&"+a$)
:NEXT:DATA cd,ab,bb,21,0f
,bf,7e,b7,c8,cd,5e,bb,23,
18,f7,0f,02,1f,09,19,48,4
1,43,4 b,45,44,20,42,59,20
,44,47,20,20,2d,20,30,35,
2f,30,39,2f,38,36,00
20 MODE 2:INPUT"Rings 1-1
0":a:IF a<1 OR a>10 THEN
20 ELSE c$="3e"+HEX$(a,2)
+"32f89d"
30 CLS:INPUT"Infinite liv
es Y/N";a$:a$=UPPER$(a$):
IF a$="Y" THEN c$=c$+"3e0
0329e91" ELSE CLS:INPUT"N
o of lives 1-99";a:IF a<
1 OR a>99 THEN 30 ELSE c$
=c$+"3e"+HEX$(a,2)+"32879
2"
40 CLS:INPUT"Turn off tit
le tune Y/N";a$:a$=UPPER$
(a$):IF a$="Y" THEN c$=c$
+"3ec9323d94"
50 CLS:INPUT"Infinite lig
htning Y/N";a$:a$=UPPER$(
a$):IF a$="Y" THEN c$=c$+
"3e00325f8b" ELSE c$=c$+"
3eff328c92328d92"
60 CLS:INPUT"Stop clock Y
/N";a$:a$=UPPER$(n$):IF a
$="Y" THEN c$=c$+"3e00325
f8b" ELSE c$=c$+"3eff328c
92328d92"
70 c$=c$+"c37a9e":ad=&BE0
0:FOR b=1 TO LEN(c$) STEP
 2:POKE ad,VAL("&"+MID$(c
$,b,2)):ad=ad+1:NEXT
80 OPENOUT "d":MEMORY &11
FF:LOAD"!the apprentice":
POKE &1251,&CD:POKE &1252
,0:POKE &1253,&C3:POKE &1
25F,&C3:POKE &1260,0:POKE
 &1261,&BF:CALL &1200
```



GALVAN

These tips for the Imagine coin-op come from **Jonathan Newcombe** of St. Albans, who obviously didn't have much trouble with it.

On of the main things is to keep on the move. When the game starts, immediately go right and up the first set of steps to get a power pyramid. You'll then be able to fire the arc-blaster. As you lose power your weapon is degraded to a gun and then you are down to fists, which are virtually useless, so you should search for another power pyramid immediately. You can shoot the rotating triangle, but it will paralyze you if touched. The balls that roll along and the sparkling drops all have the same effect and can all be shot.

When you reach the three-headed demon you will need an arc-blaster. The best attack is to jump up and down firing rapidly, then stand still and shoot until the hands blow off. You will probably have only a gun by now with which to kill off the two heads.

On the next level you'll find a few red power pyramids which give you the Blue Bolt Neutralizer. This is a devastating weapon and makes life a lot easier. The demon is easier to eliminate with this weapon. Once onto the next level you'll find many more robots. There are only a few variations on the levels and there is a certain path through each one. Once learnt it becomes a lot easier.

A neat little job has been done on the new Bubble Bus game by RpM. Enter the poke using Method 1, then experiment to see what each item does.

```
 1 'Axiens
 2 'Amstrad Action Jan87
10 FOR t-&8000 TO &800B
20 READ a$:POKE t,VAL("&"
+a$)
30 NEXT t:CALL &8000:MODE
 2
40 INPUT"How many lives ?
",lv
50 IF lv<0 OR lv>200 THEN
 40
60 POKE &478C,lv
70 PRINT"Stars (Y/N) ?"
80 a$-UPPER$(INKEY$):IF a
$-"" THEN 80
90 IF a$-"N" THEN POKE &4
AE8,&C9:GOTO 120
100 IF a$-"Y" THEN 120
110 GOTO 80
120 PRINT"Invisible alien
s (Y/N) ?"
130 a$-UPPER$(INKEY$):IF
a$-"" THEN 130
```

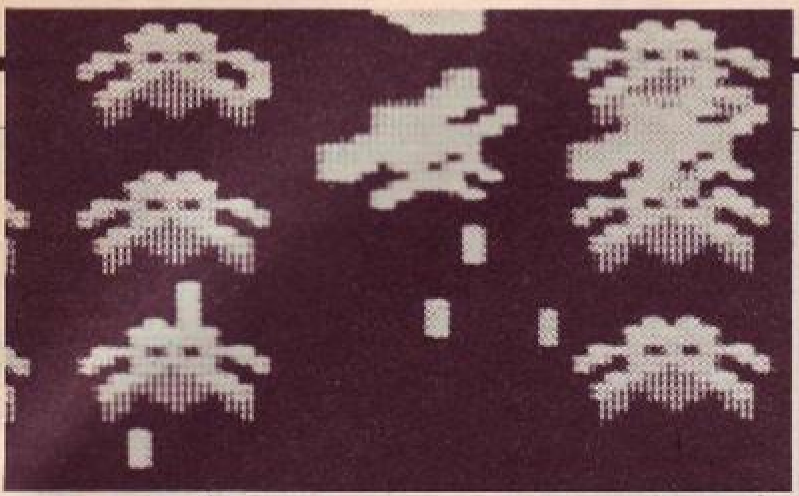
ELITE

Another anonymous tip, from an absentminded reader who forgot to give name and address, but an important one. When using the cheat featured in issue 14 (November) never save your games onto the *Elite* disc, because the cheat corrupts them. Abject apologies to anyone who found out the hard way.

DAN DARE
PILOT OF THE FUTURE

This is a great little tip from **Mark Baldwin** of Walthamstow. It opens up a few more screens on the Virgin game and even allows you to collect the second bridge block before the first!

All you have to do is get to the screen that is one right and one up from where Digby is. Walk to the edge of the platform and jump to the right. You'll fall onto what looks like the death screen. But as you fall towards the bottom of it, jump again to the right and you'll appear in an interesting new section. From there on you can experiment for yourself.



CLASSIC AXIENS

```
140 IF a$="Y" THEN POKE &
433F,&C9:GOTO 170
150 IF a$="N" THEN 170
160 GOTO 130
170 PRINT"Stop aliens fly
ing/dropping bombs (Y/N)
?"
180 a$=UPPER$(INKEY$):IF
a$="" THEN 180
190 IF a$="Y" THEN POKE &
2DEF,&C9:GOTO 220
200 IF a$="N" THEN 220
210 GOTO 180
220 PRINT"Stop energy dec
reasing (Y/N) ?"
230 a$=UPPER$(INKEY$):IF
a$="" THEN 230
240 IF a$="Y" THEN POKE &
49B0,&C9:GOTO 270
250 IF a$="N" THEN 270
260 GOTO 230
270 CALL &2000
280 DATA 21,00,20,11,00,5
3
290 DATA 3E,16,CD,A1,BC,C
9
```

Poker face

We hope you like the clean new typeface for listings in *Amstrad Action*. You should find them easier to type in error-free.

One problem in Cheat Mode pages is the narrow columns. It would make pokes even clearer to read if lines were written shorter: 25 characters is the width of one line here. It would make them easier to debug too!

Compare *Apprentice 1* and *Apprentice 2* this month to see what we mean.

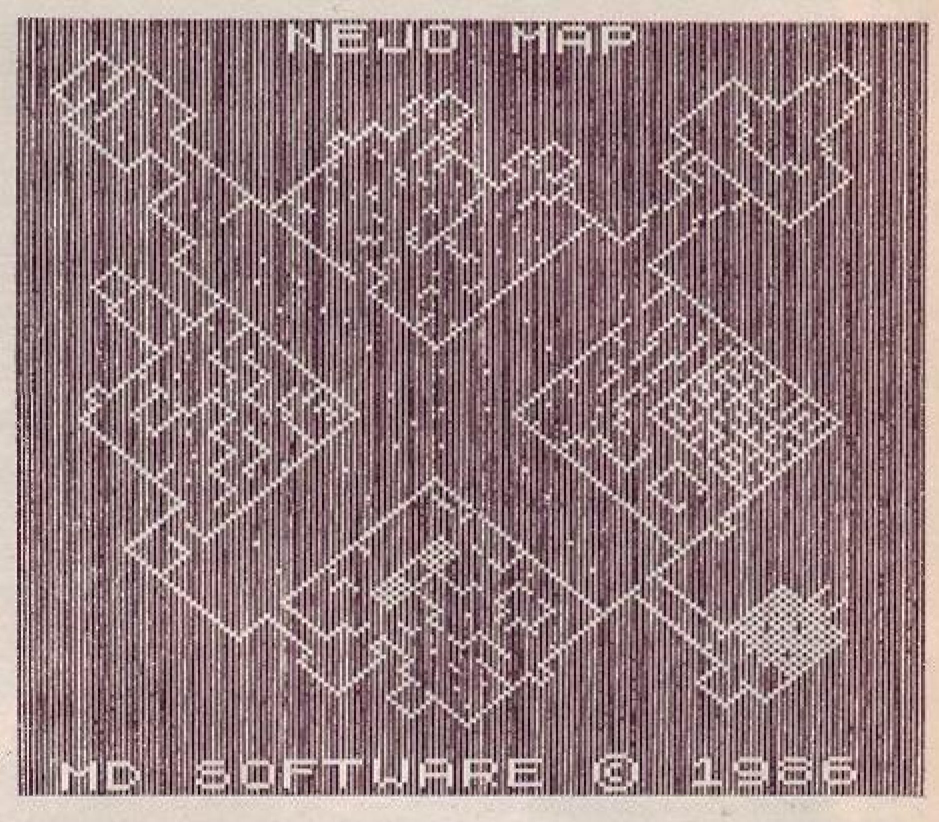
We don't want to fiddle about with the innards of your pokes, however. If you send Cheat Mode a tape, we test it on the game. If it works, we simply print an Ascii dump of it.

So a plea to poke authors: write short lines.

Tony Hoyle from St Annes has been at it again and produced a Method 1 poke for the Vortex game. Ignore the screen corruption on loading and the fact that the death sequence won't occur as before. You'll find you've got infinite lives and time.

```
 1 Revolution
 2 'Amstrad Action Jan87
10 x=&8000
20 READ a$:IF a$<>"xx" TH
EN POKE x,VAL("&"+a$):x=x
+1:GOTO 20
30 CLS:CALL &8000
40 DATA cd,37,bc,06,00,11
,00,c0
50 DATA cd,77,bc,eb,cd,83
,bc,cd
60 DATA 7e,bc,3e,f7,32,e4
,39,3e
70 DATA c3,32,30,00,21,25
,80,22
80 DATA 31,00,c3,af,39,f3
,21,40
90 DATA 00,11,00,bb,01,f3
,02,3e
100 DATA 8d,cd,67,80,21,4
a,bb,11
110 DATA 4a,bb,01,a9,02,3
e,a6,cd
120 DATA 67,80,21,00,a0,2
2,f1,bd
130 DATA 21,00,c0,22,69,b
d,21,5c
140 DATA 80,11,00,a0,01,0
b,00,ed
150 DATA b0,c3,7d,bd,3e,a
7,32,1a
160 DATA 07,32,d8,2a,c3,9
a,04,32
170 DATA 80,80,3a,80,80,a
e,77,ed
180 DATA a0,3a,80,80,c6,0
a,cb,ff
190 DATA 32,80,80,78,b1,2
0,eb,c9
200 DATA xx
```

REVOLUTION



INFILTRATOR

We've already had some lightning tips for US Gold's latest from **Richard Farley** of Llanbradach. They should prove useful for anyone just starting out on the game.

Mission 1: Fly to the enemy HQ and photograph secret documents and war plans. Always try to communicate with jets before they communicate with you, because it forces them to identify themselves. Pay close attention to the identification: if the name sounds sinister it's probably the enemy, and you should take the appropriate action. Never start a fight unless you have a really clear shot because jets always fight back to the death.

Always fly above 200 feet. This allows you to avoid enemy ground detection before landing and stops you from crashing too often. Flying too high – over 2,000 feet – isn't a good idea either, as it takes a long time to get to the ground from that altitude.

Use your turbo as much as possible. It allows you to stretch out the fuel supply and reduces the time to reach the destination. Watch the oil temperature: if it gets too hot the engine will fail.

The heat-seeking missiles are your best weapon, so don't waste them. Wait for the enemy jet to fly into your path and then hit the fire button. It's best not to try to force the jet into your sights.

Concentrate on keeping the helicopter flying towards its destination. Always use the automatic direction-finder in the cockpit. It's best to program it immediately on takeoff.

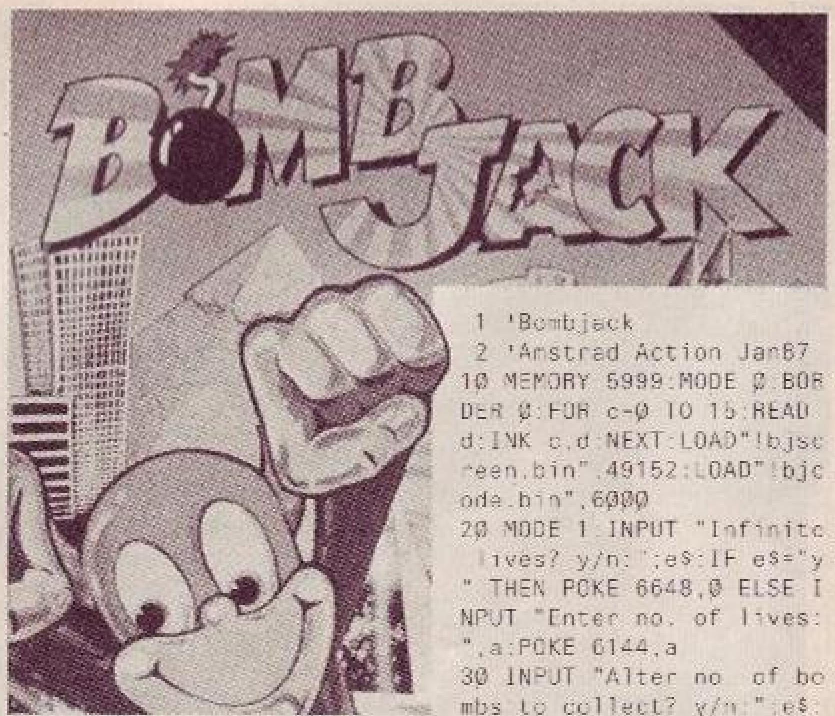
If you make it to the enemy base you can select various items to help you: sleeping gas, gas grenades, papers, camera, explosives etc. A general point to remember when exploring the complex is that if the room you enter is grey in colour, it's important. Search it carefully.

You should gas any guard in rooms which you want to photograph. The security car and janitor's uniform are in a building in screen two. Screen one contains the security control centre. Maps and documents to be photographed can be found in screens four, five and six.

If you finish the ground mission and set off an alarm you'll attract a maniac jet which you'll have to blow up. If you find an electronic key when searching in the chests in the buildings you can turn the alarm off.

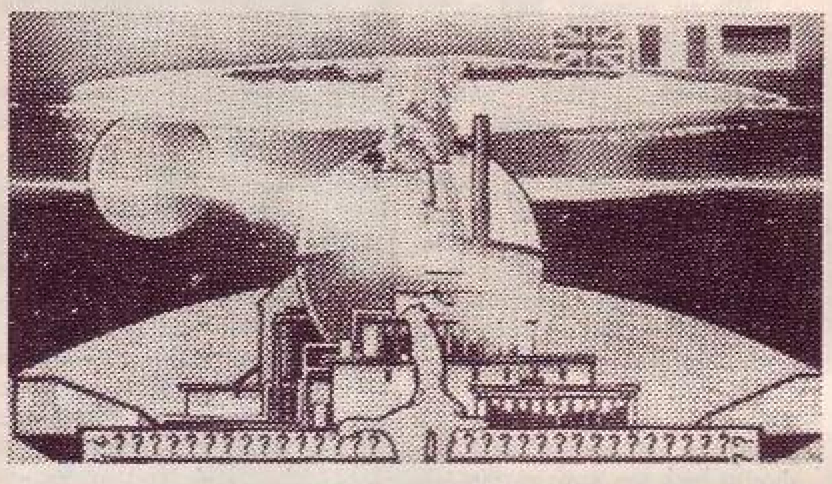
Mission 2: To get the scientist off the base you have to make him invisible. You'll find an invisibility pill in a cabinet in the laboratory. Give it to him and he will disappear and follow you outside. To save time give him the pill before planting explosives under his desk in the laboratory.

Turn on the mine-detector before leaving or entering the area where the helicopter has landed, because you're surrounded by mines. Also remember to stay away from guards while wearing the janitor's uniform.




```
 1 'Bombjack
 2 'Amstrad Action Jan87
10 MEMORY 5999:MODE Ø:BOR
DER Ø:FOR c=Ø TO 15:READ
d:INK c,d:NEXT:LOAD"!bjsc
reen.bin",49152:LOAD"!bjc
ode.bin",6000
20 MODE 1:INPUT "Infinite
 lives? y/n: ";e$:IF e$="y
" THEN POKE 6648,Ø ELSE I
NPUT "Enter no. of lives:
",a:POKE 6144,a
30 INPUT "Alter no. of bo
mbs to collect? y/n: ";e$:
IF e$="y" THEN INPUT "No.
 of bombs to collect 1-24
:";n:IF n<1 OR n>24 THEN
n=24 ELSE POKE 6237,n
40 MODE Ø:CALL 6000
50 DATA 1,Ø,26,8,24,13,11
,6,15,16,5,2,6,3,20,10
```

This is a Method 1 poke from **Stephen Basford** of Crewe which allows you to set the number of bombs that have to be collected to move on to the next screen, as well as the number of lives.



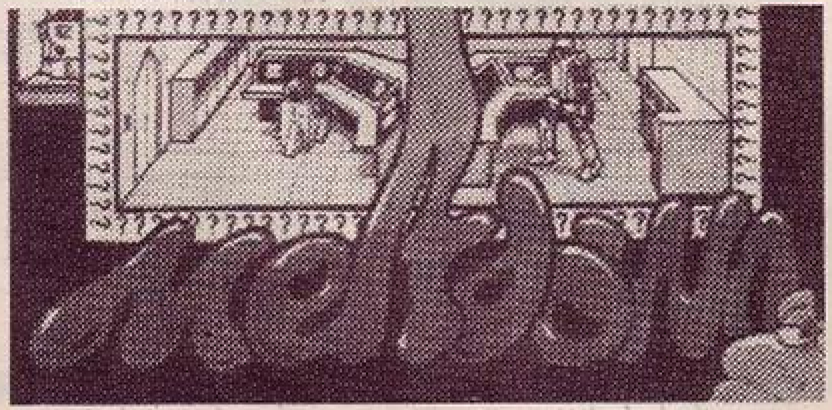
Now for some interesting news from **Nicholas Pavis** of Rugby on the Alligata game for the 6128 on disk. Take it away, Nicholas ...

I completed Meltdown a month ago, and was presented with a certificate on which was a number. I rang this number and it turned out to be the author: Ross Goodley. He told me I was the first to finish and he presented me with a cheat mode – a game editor! This seemed to be an obvious cheat mode, for it is contained in one of the passwords.

The cheat is to type in 663605 during the game, which gives you the editor. This is how to use it. Caps Lock must be on. Type HELP and you're given a list of action words, type VARS and you're given a list of variables. The rest is up to you, but I'll leave you with an example:

```
SET LIFT 1
SET LEVEL 2
SET OX 3
SET SPRITE 3
GAME
```

Now that's what I call a cheat mode! Congratulations to both Nicholas and Ross Goodley.



Stainless Steel

Stephen Basford from Crewe has cracked one of our challenges. This poke lets you start on any level of the Mikro-Gen shoot-em-up, and also gives infinite lives and fuel. Use Method 1.

```
 1 'Stainless Steel
 2 'Amstrad Action Jan87
10 INPUT "Level Ø-3:",a:I
F a<Ø OR a>3 THEN 10
20 MEMORY &3FFF:CLS:LOCAT
E 7,12:PRINT "Play tape f
rom the start"
30 LOAD"!steel"
40 POKE &400B,134:POKE &4
00C,1:POKE &4084,158:POKE
 &4085,254
50 FOR c=&415E TO &4184:R
EAD d:POKE c,d:NEXT:POKE
&415F,a:CALL &4000
60 DATA 62,Ø,50,232,191,1
75,50,125
70 DATA 20,50,126,20,50,1
27,20,50
80 DATA 128,20,50,129,20,
62,195
90 DATA 50,216,6,175,50,1
61,6,50
100 DATA 162,8,50,163,8,1
95,22,1
```



Ghosts'n Goblins

From **Arun Mehra** of Raynes Park comes a nice little tip for the Elite arcade conversion. On level two when you reach the lifts, jump onto the first platform and at any point you can pull down on the joystick and stop it. You can then jump onto the next platform and repeat the procedure for all of them.

Z

Another disk poke from RpM, which again gives between 1 and 255 lives. Type it in, save it onto the game disk and then run it.

```
 1 'Z
 2 'Amstrad Action Jan87
10 ENV 1,1,15,1,15,-1,5
20 ENV 2,1,13,1,13,-1,8
30 ENV 4,1,15,1,15,-1,6

40 ENV 5,1,14,1,14,-1,4

50 ENV 6,1,14,1,1,Ø,40,1,
-14,1
60 ENV 7,1,15,1,15,-1,7
70 ENV 8,1,15,1,1,Ø,20,15
,-1,6
80 ENV 9,15,1,2,5,Ø,150,1
5,-1,6
90 ENV 10,1,14,1,1,Ø,100,
1,-14,1
100 ENT -1,1,-2,1
110 ENT -2,10,-10,1,1,100
,1
120 ENT 3,6,-10,2,6,10,2

130 ENT -4,1,10,1
140 ENT -5,1,2,1
150 ENT -6,20,10,1,20,-10
,1
160 ENT 9,200,-2,2,200,2,
2
170 MEMORY &3FFF
180 LOAD "ZED":MODE 1
200 INPUT"How many lives
? ",lv
210 IF lv<Ø OR lv>256 TH
EN 200
220 POKE &A0B9,lv
230 CALL &A070
```

How to win an ENTIRE ISSUE'S Rave software

All you have to do is produce an excellent map, poke, or playing tips. We've set you a number of challenges but if you can produce something even better, feel free – you'll have just as much chance of winning a prize.

The best solution will win a copy of every Rave and the Mastergame from the issue in which the solution is printed. The number of games will vary, of course: in past issues we've averaged between 5 and 10 Raves. That's over £50 of software, and some months it may top £100. The prizes will usually be on cassette unless you request disk software. We also give out five runners-up prizes every month – the Mastergame or one of the Raves in that issue.

Nicholas Pavis takes the big prize this month for his *Starquake* poke and tips on *Meltdown*. Runners-up prizes to **Richard Farley** for his *Infiltrator* tips, **Mark Baldwin** for his *Dan Dare* tip, **Stephen Basford** for the *Stainless Steel* and *Bombjack* pokes, **Mark Bennett** for the *Lightforce* poke, and **Tony Hoyle** for the *Revolution* poke.

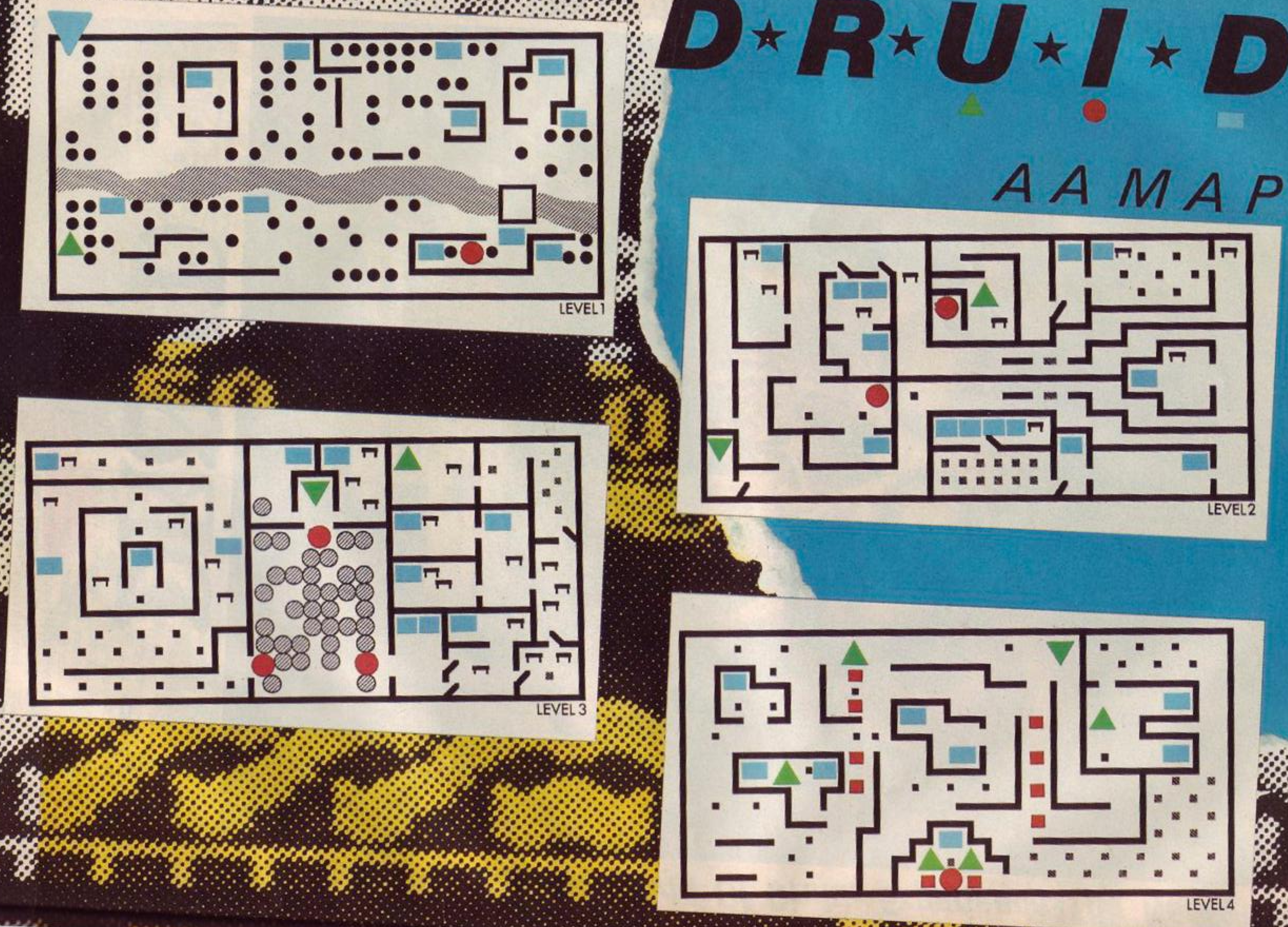
On to this month's challenges:

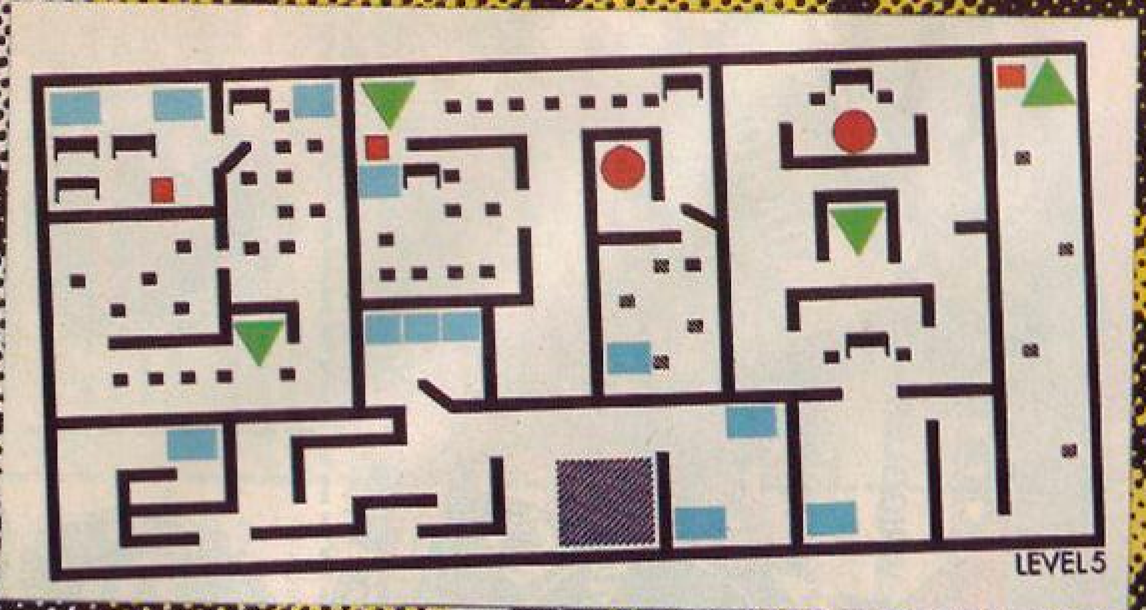
- A map, playing guide or poke for *Heartland*.
- Playing guide for *They Stole a Million*.
- A playing guide to *Time Trax*.
- An infinite-lives poke for *Ikari Warriors*.
- Playing tips or poke for *Werner*.

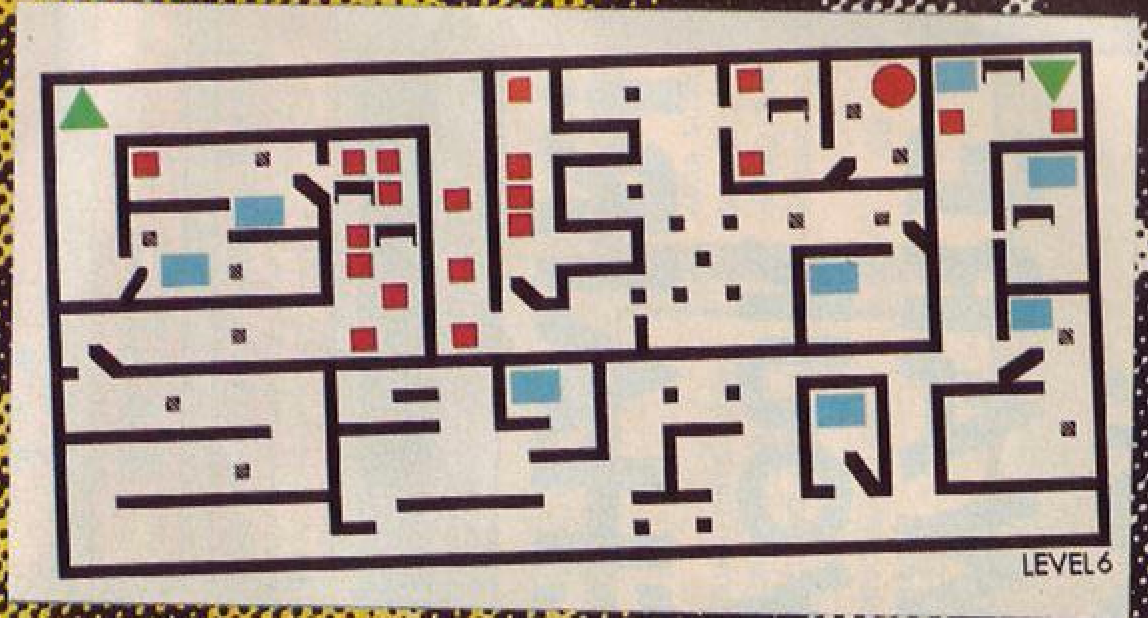
 It's against my religion.

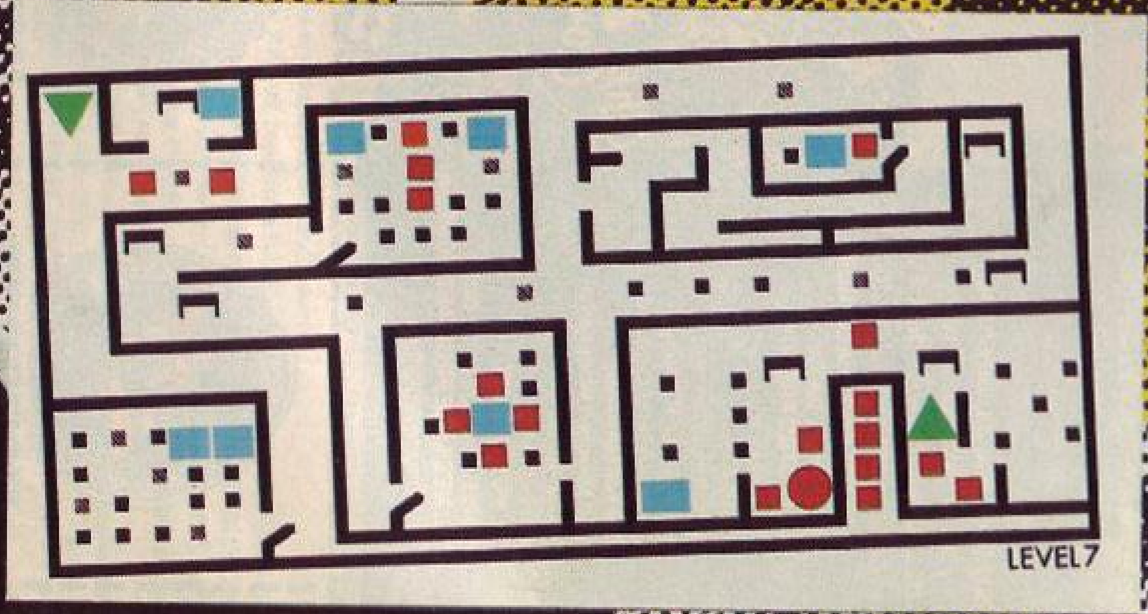
D★R★U★I★D

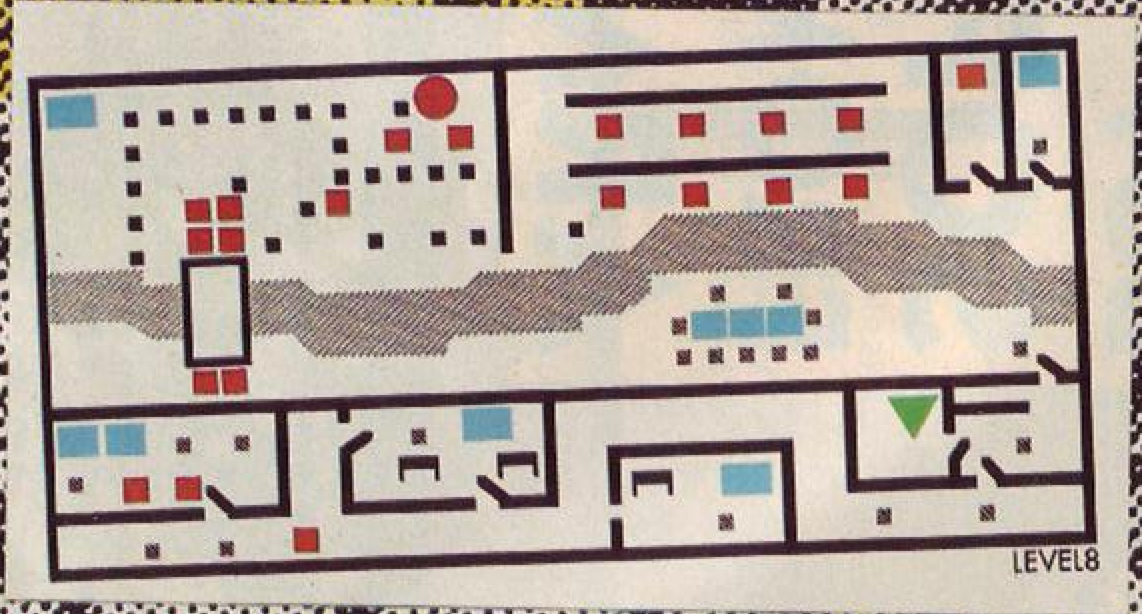
AA MAP











KEY

- CHEST
- LOCKED DOOR
- SKULL
- BLOCK(drains energy)
- STAIRWAY(to another level)
- PENTAGRAM(replenishes energy)
- FACES(BLACK-safe:WHITE-drains energy)

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Two great Ocean games on one tape, as given away with the Christmas '85 issue of AA. If you missed it then, you could get it now.

2. THE COVENANT + DEMOS
A full version of the AA-Rave PSS game on tape, together with demos of four other PSS titles, and instructions for transferring *The Covenant* to disk. As featured on the cover of our May 1986 issue.

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Probe Software. AA Rave.

4. ALIEN 8
3D Classic, Ultimate

5. HERBERT'S DUMMY RUN
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The cassette is arguably the best gift ever stuck to a magazine cover, and up to the standard you would pay pounds for over the counter. *Kung Fu* has superb animation and a two-player option; *Number One* is an addictive rollerball game with super-fast 3D graphics.

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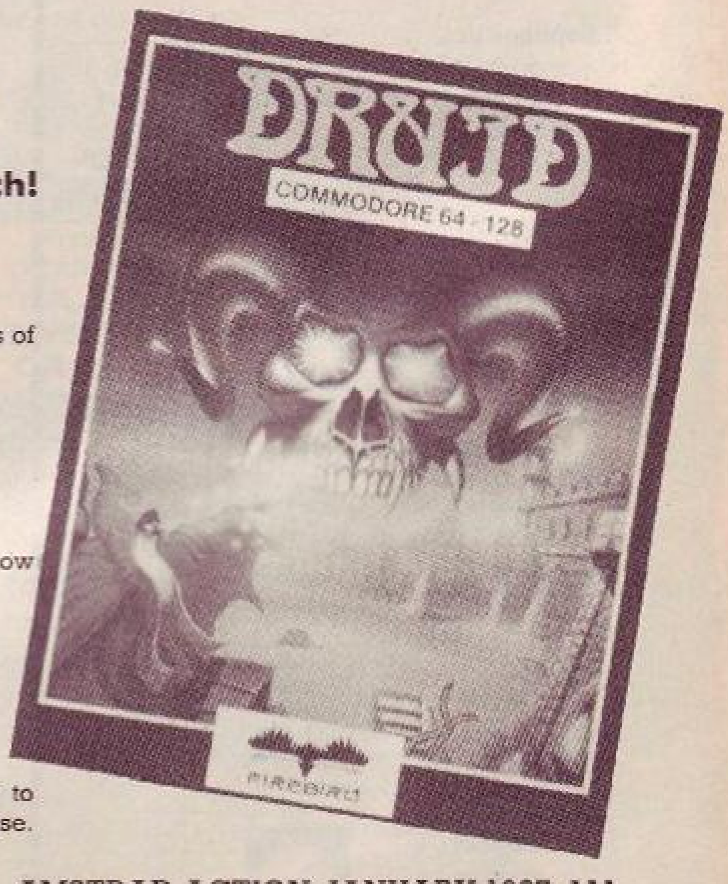
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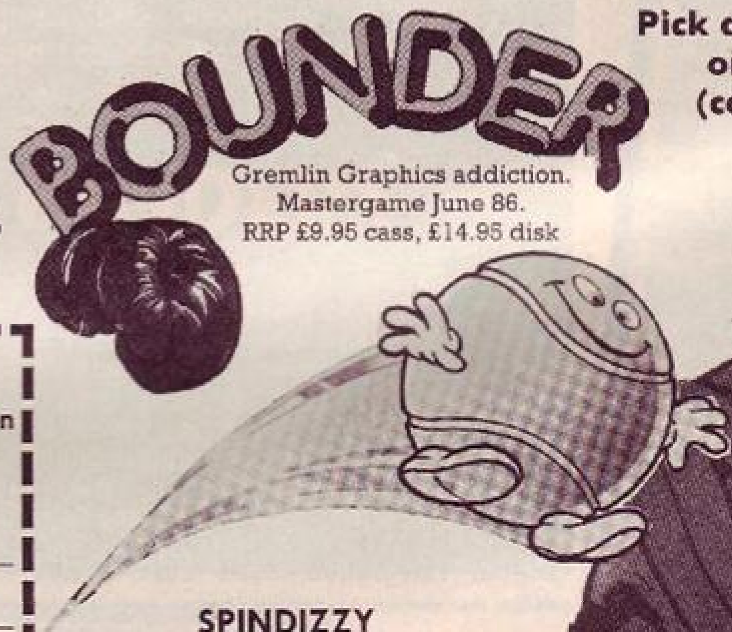
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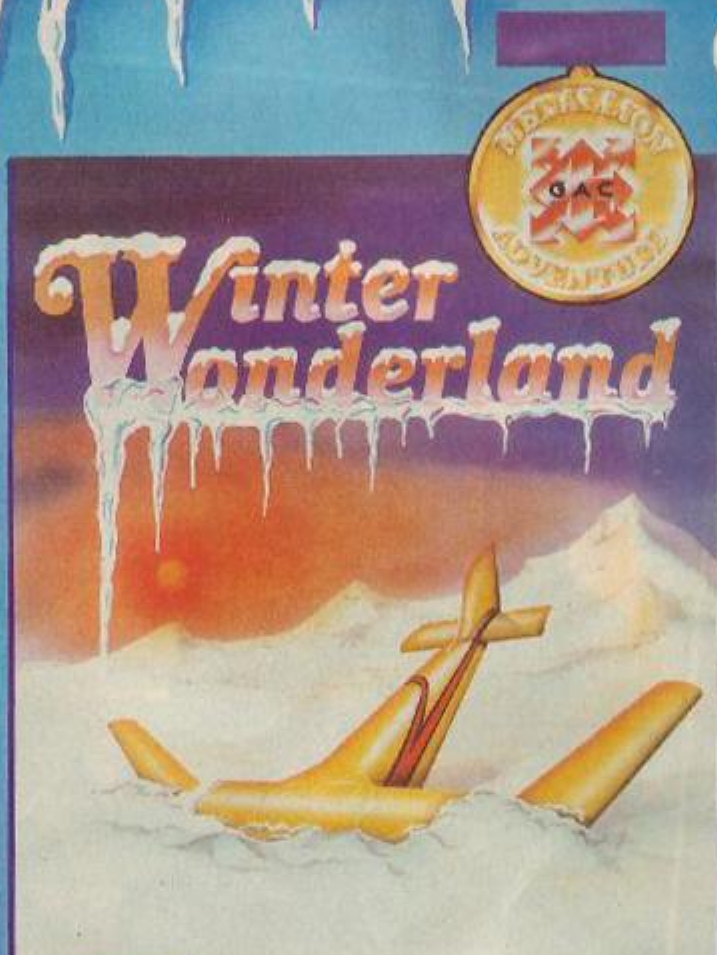
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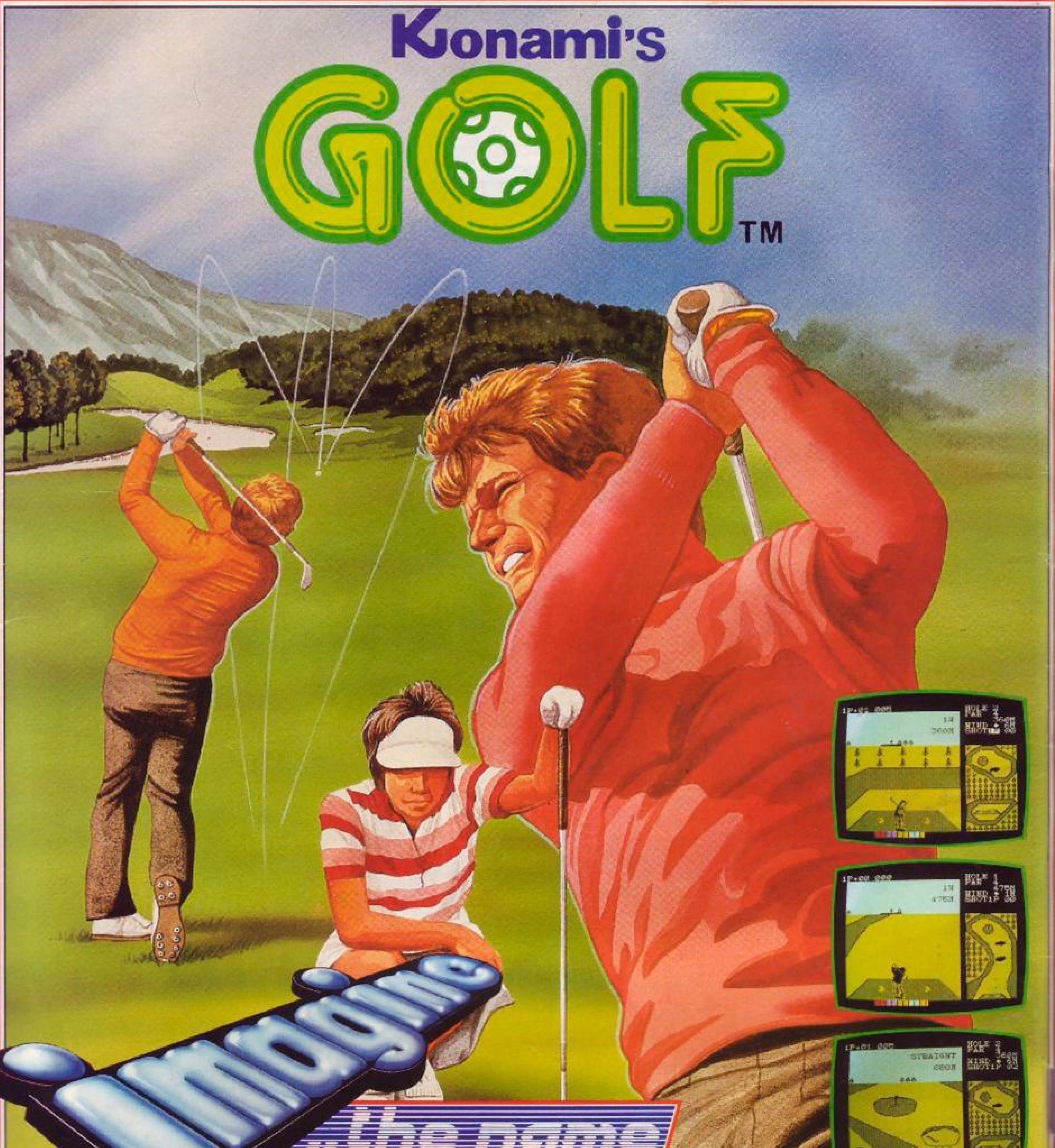


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